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Chapter 1 Test

1. Miriam buys 24 petunia plants and 40 azalea plants. She wants to plant an equal number of flowers in each row of her garden. Each row will contain only one type of flowering plant. 6.NS.4

Part A: Determine the greatest number of plants that could be in each row of the garden.

Part B: Miriam plants the greatest number of flowering plants possible in each row. How many rows of each type of flower will be in Miriam's garden?

2. For a family picnic, Akeela wants to buy the same number of bratwurst and buns. The bratwurst come in packages of 6, and the buns are sold in packages of 8. 6.NS.4

Part A: What is the least number of bratwurst and buns that Akeela could buy?

Part B: How many packages of each should Akeela buy to have the least number of total packages?

3. Billy has both baseball and football card collections. He arranges his cards in equal rows. Using his current card collection, Billy is able to make rows of 9 cards, with each row containing only one type of card. Select all the ways that Billy can have each type of card in his collection. 6.NS.4

- ☐ 27 baseball cards and 45 football cards
- ☐ 18 baseball cards and 24 football cards
- ☐ 36 baseball cards and 72 football cards
- ☐ 15 baseball cards and 63 football cards
- ☐ 27 baseball cards and 81 football cards

4. Thulani goes to the library every 7 days. He goes to the market every 4 days. Today, August 1, Thulani goes to both the library and the market. How many more times will he go to both places on the same day for the remainder of the year? 6.NS.4

5. Alicia took a poll to determine her classmates' favorite pets. She wrote the results on the board: Dog, 8; Cat, 5; Bird, 2; and Fish, 3. Select whether each statement is true or false. 6.RP.1

True	False	
☐	☐	The ratio of birds to dogs is 4:1.
☐	☐	The ratio of fish to cats is 3 to 5.
☐	☐	The ratio of dogs to the other pets is 4:5.
☐	☐	The ratio of birds to the total number of pets is 9 to 1.

6. Jillian has 3 pencils and 4 pens. Select all of the ways to write the ratio of pens to pencils. 6.RP.1

- ☐ 4 + 3
- ☐ 4 to 3
- ☐ $\frac{4}{3}$
- ☐ 3:4
- ☐ 4:3
- ☐ 4 – 3

7. George surveyed his friends about recent driving trips their families took for vacation. Write the appropriate unit rate for each distance traveled. 6.RP.2

200 miles in 4 hours ☐

270 miles in 6 hours ☐

1,440 miles in 30 hours ☐

$\frac{1 \text{ hour}}{50 \text{ miles}}$	$\frac{144 \text{ miles}}{3 \text{ hours}}$	$\frac{45 \text{ miles}}{1 \text{ hour}}$
$\frac{48 \text{ miles}}{1 \text{ hour}}$	$\frac{1 \text{ hour}}{45 \text{ miles}}$	$\frac{100 \text{ miles}}{2 \text{ hours}}$
$\frac{90 \text{ miles}}{2 \text{ hours}}$	$\frac{50 \text{ miles}}{1 \text{ hour}}$	$\frac{1 \text{ hour}}{48 \text{ miles}}$

8. The table shows the cost of the fruit that Nadine bought at the market. 6.RP.2

Fruit	Amount (lb)	Cost ($)
Lemons	2	0.84
Oranges	5	2.25
Bananas	3	1.17

Part A: Complete the table to order the unit prices of the fruit from least to greatest.

	Fruit	Unit Price ($ per lb)
Least		
Greatest		

Part B: How much more do 10 pounds of oranges cost than 10 pounds of bananas? Justify your response.

9. A recipe calls for 3 eggs for every batch. Write the appropriate numbers in the table to show the eggs needed for different batches. 6.RP.3, 6.RP.3a, 6.RP.3b

$\frac{2}{3}$	1	$\frac{4}{3}$	3
4	6	7	12
15	36	63	135

Batches	2	4		12	
Number of Eggs			21		45

10. Victoria reads at a constant rate of 10 pages in 16 minutes. 6.RP.3, 6.RP.3a

Part A: Use Victoria's reading rate to complete the table.

Number of Pages		25	35	
Time (min)	8			64

Part B: How many minutes will Victoria take to read 100 pages?

11. Antoine and Angela both like to walk for exercise. Today they are walking together. Antoine walks every 3 days, and Angela walks every 5 days. Circle all the days on which they will walk together again. 6.NS.4

8 days 12 days 15 days 25 days 45 days

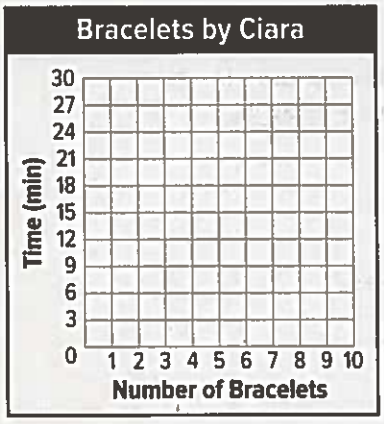
12. Ciara takes 6 minutes to make 1 bracelet. 6.RP.3, 6.RP.3a, 6.RP.3b

Part A: Use Ciara's rate to complete the ratio table.

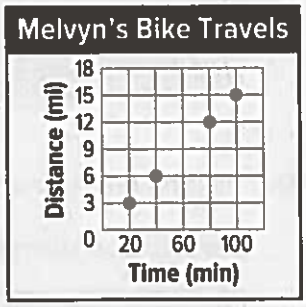
Number of Bracelets	1	2		5
Time (min)	6		18	

Part B: Write the values in the table as ordered pairs (bracelets, minutes).

Part C: Graph the ordered pairs on the coordinate plane.



13. The graph shows the distance Melvyn can ride his bike for different periods of time. He rides his bike at a constant rate of speed. On Tuesday, Melvyn rode his bike for one hour. How many miles did he travel? Explain how you solved the problem. 6.RP.3, 6.RP.3b



14. Rosario paid $2.50 for 3 pounds of apples. Select all of the rates that are equivalent to the rate Rosario paid. 6.RP.3, 6.RP.3b

- ☐ $0.80 for 1 pound
- ☐ $4.50 for 5 pounds
- ☐ $7.50 for 9 pounds
- ☐ $9.60 for 11 pounds
- ☐ $10.00 for 12 pounds

15. On a map, 2 inches represents 75 miles of actual distance. 6.RP.3

Part A: Two towns are 6 inches apart on the map. How many miles apart are the two towns?

Part B: Two cities are 600 miles apart. How many inches apart on the map are the two cities?

16. A 6-ounce drink costs $2.16, and a 10-ounce drink costs $3.25. Which drink is the better buy? Justify your answer. 6.RP.3

17. Jen wrote the ratio $\frac{2}{3}$. Select whether each action will result in an equivalent ratio. 6.RP.3, 6.RP.3a

Yes	No	
☐	☐	Multiply the numerator by 3 and the denominator by 2.
☐	☐	Multiply the numerator by 2 and the denominator by 3.
☐	☐	Add 6 to the numerator, and add 6 to the denominator.
☐	☐	Multiply the numerator by 7 and the denominator by 7.

18. Sally earns $37.00 for 4 hours of babysitting. At this rate, how much more would she earn for 9 hours of babysitting? 6.RP.3

19. The table shows the rate at which four people walk. 6.RP.3, 6.RP.3a, 6.RP.3b

Person	Distance (mi)	Time (h)
Aisha	5.0	2.0
Bob	7.5	5.0
Cora	9.0	3.6
Dylan	3.75	2.5

Part A: Select whether each statement is true or false.

True	False	
☐	☐	Aisha and Bob walk at the same rate.
☐	☐	Bob and Dylan walk at the same rate.
☐	☐	Cora and Dylan walk at the same rate.
☐	☐	Aisha and Cora walk at the same rate.

Part B: Emilio walks 19.2 miles in 6.0 hours. Fala walks 10.5 miles in 3.0 hours. Compare the unit rates of the 6 people. Graph the walking rates in miles per hour on the number line. Label each point with the first initial of the person's name.

Walking Rate (mi/h)

20. A manufacturer of rubber balls estimates that 3 out of every 500 balls produced are defective. The manufacturer produces 100,000 balls each week. Predict the number of rubber balls that are not defective each week. 6.RP.3

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Chapter 2 Test

1. After 20 minutes Juan had completed 12 questions, which is 0.7 of his assignment. What percent of the assignment had Juan *not* completed? 6.RP.3

2. Sort the decimals into the appropriate bins by how they compare to 100%. 6.RP.3

0.01	0.953	1.32	2.002
0.86	1	12.5	1.015

Greater than 100%	Equal to 100%	Less than 100%

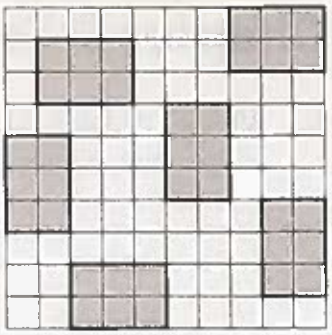
3. Stephanie surveyed the students in her class to find out their favorite color. Her results are in the table. What percent of Stephanie's classmates did *not* choose blue as their favorite color? 6.RP.3

Stephanie's Results	
Color	**Number**
Red	6
Blue	9
Other	10

4. A principal states that 50% of the students in the school are girls. The fractions of girls in several classrooms at the school are listed. Select whether 50% could be used as an estimate to represent each fraction. 6.RP.3

Yes	No	
☐	☐	$\frac{4}{9}$
☐	☐	$\frac{1}{8}$
☐	☐	$\frac{7}{12}$
☐	☐	$\frac{5}{6}$
☐	☐	$\frac{9}{20}$

5. Ralph made the pattern shown on the grid. 6.RP.3



Part A: Select all of the expressions that represent the portion of the model that Ralph shaded.

- ☐ 64%
- ☐ 0.36
- ☐ 0.25
- ☐ $\frac{9}{25}$
- ☐ 36%
- ☐ $\frac{1}{2}$

Part B: Ralph wants to show $\frac{13}{20}$ on another grid of the same size. How many squares must he shade?

6. Sort the fractions into the appropriate bins by their decimal equivalents. 6.RP.3

$\frac{36}{48}$	$\frac{15}{24}$	$\frac{75}{120}$
$\frac{65}{130}$	$\frac{10}{16}$	$\frac{18}{24}$

Equal to 0.5	Equal to 0.625	Equal to 0.75

7. Regina scored 84% on a test. She answered 63 items correctly. How many items did Regina answer incorrectly? 6.RP.3, 6.RP.3c

8. The Wilson family had a celebration dinner at a local restaurant. The cost of the dinner was $80.00. 6.RP.3, 6.RP.3c

Part A: The Wilsons plan to leave an 18% tip for the server. How much money would the tip be?

Part B: The sales tax rate is 7.5%. How much money do the Wilsons have to pay for the sales tax on the dinner?

Part C: What is the total amount that the Wilsons pay?

9. A student conducted a survey of sixth-grade students to determine the number of movies they watch each month. Complete the table to order the responses from least to greatest percent of students. 6.RP.3

Movies Watched per Month				
Number of Movies	0–4	5–6	7–8	9+
Portion of Student Responses	27%	0.2	$\frac{1}{4}$	$\frac{7}{25}$

	Number of Movies Watched	Percent of Students
Least		
Greatest		

10. Parminder estimated that between 25% and 50% of students walk to school. Circle each fraction that could represent the percent of students who walk to school. 6.RP.3

$\frac{3}{10}$ $\frac{2}{5}$ $\frac{2}{3}$ $\frac{3}{8}$ $\frac{2}{9}$ $\frac{7}{20}$ $\frac{6}{11}$

11. Josie made a pattern using red and blue tiles. Three fourths of the tiles were blue. Select all of the ways Josie could write the fraction of blue tiles as a decimal. 6.RP.3

- ☐ Divide 4 by 3.
- ☐ Divide 3 by 4.
- ☐ Divide 1 by 4.
- ☐ Multiply the numerator by 10. Then use place value.
- ☐ Multiply the numerator and the denominator by 25. Then use place value.
- ☐ Multiply the denominator by 2.5. Then use place value.
- ☐ Multiply the numerator and denominator by $3\frac{1}{3}$. Then use place value.

12. To celebrate the 6th anniversary of a store opening, the manager has a sale of "$6.00 off every item in the store." What percent of the different prices would equal $6 off? Write a number so that each statement represents a $6.00 discount. 6.RP.3, 6.RP.3c

120	16	30	50	60	6	24	10	15

10% off of $☐

☐% off of $40

20% off of $☐

25% off of $☐

☐% off of $12

13. Carmen has $100 to spend. Sales tax in her city is 10%. Which 3 different items can Carmen buy to spend as much of her $100 as possible? Explain your answer. 6.RP.3, 6.RP.3c

Item	Price ($)
Jeans	25.00
Belt	23.50
Shoes	35.00
Skirt	30.00
Purse	31.00

14. A light bulb manufacturer estimates that $\frac{1}{4}$% of light bulbs produced will be defective. The manufacturer produces 200,000 light bulbs in one month. About how many bulbs can they expect to be defective? 6.RP.3, 6.RP.3c

15. Marie scored a 75% on her last test. Select all of the statements that could be true. 6.RP.3, 6.RP.3c

- ☐ Marie answered 1 item incorrectly out of 4 items.
- ☐ Marie answered 40 items correctly out of 50 items.
- ☐ Marie answered 15 items incorrectly out of 60 items.
- ☐ Marie answered 18 items incorrectly out of 24 items.
- ☐ Marie answered 42 items correctly out of 56 items.

16. An electronics store buys a television at a wholesale price of $120. The store then sells the television to its customers for $300. What percent of the wholesale price is the selling price? 6.RP.3, 6.RP.3c

17. At basketball practice, Derrick tossed a basketball from the free-throw line to the basket 80 times. Of his 80 attempts, he made 66 baskets. 6.RP.3, 6.RP.3c

Part A: What percent of throws did Derrick make?

Part B: At practice the next day, Derrick made 54 baskets out of 70 attempts. Describe how Derrick's overall percentage for the two days compares to his percentage for the previous day. Justify your answer.

18. Mr. Allen estimated that 50 people at a basketball game were cheering for the visiting team. Select all of the statements that could represent this estimate. 6.RP.3, 6.RP.3c

- ☐ 24% of 195 people
- ☐ 18% of 487 people
- ☐ 62% of 148 people
- ☐ 67% of 77 people
- ☐ 11% of 512 people

19. Fifteen hundredths of the students in the sixth grade wore a blue shirt yesterday. Sort the expressions into the bin that describes whether or not the expression represents the numeral. 6.RP.3

Represents fifteen hundredths	Does not represent fifteen hundredths

0.015 | 15% | 0.15 | 1,500 | $\frac{100}{15}$ | $\frac{15}{100}$ | 1.5 | 0.15%

20. Alphonse did enough sit-ups to rank in the 99th percentile for boys his age. This means that less than 1% of all the boys did more sit-ups than Alphonse. Select whether each decimal could represent the fraction of boys who did more sit-ups than Alphonse. 6.RP.3

Yes	No	
☐	☐	0.01
☐	☐	0.002
☐	☐	0.95
☐	☐	0.04
☐	☐	0.103
☐	☐	0.0056

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Chapter 3 Test

1. Roberta buys a sweater and a scarf. The sweater costs $24.79 and the scarf costs $8.89. 6.NS.3

Part A: What is the total cost of the two items?

Part B: Roberta has a $50 gift card. How much is left on the card after she pays for the two items?

2. Greg found $0.72 on the floorboard of his car. Select all of the expressions that are equivalent to 0.72. 6.NS.3

- ☐ 0.2 – 0.92
- ☐ 0.82 – 0.01
- ☐ 0.9 – 0.18
- ☐ 0.3 + 0.42
- ☐ 0.7 + 0.2
- ☐ 0.05 + 0.67

3. LaToya's mother uses 5.84 pounds of apples to make applesauce. She got them from a bag of apples that weighs 16.3 pounds. How many pounds of apples are left in the bag? 6.NS.3

4. A runner estimated that he ran about 12 miles. Select all of the rates and times that the runner could have run. 6.NS.3

- ☐ 3.3 miles per hour for 3.8 hours
- ☐ 6.1 miles per hour for 1.9 hours
- ☐ 5.8 miles per hour for 2.3 hours
- ☐ 2.75 miles per hour for 4.4 hours

5. A bus travels about 400 miles between cities. Select whether the rates and times could represent the estimated distance the bus traveled. 6.NS.3

Yes	No	
☐	☐	53.2 miles per hour for 7.74 hours
☐	☐	39.8 miles per hour for 10.15 hours
☐	☐	47.6 miles per hour for 9.8 hours
☐	☐	76.3 miles per hour for 5.24 hours

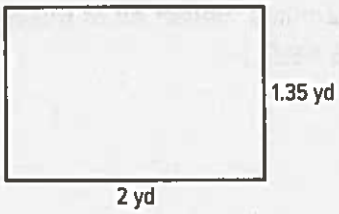
6. The table shows the cost of several items. Suzanne needs to buy school supplies. She has $5.25 to spend. Select all of the items that Suzanne can buy. 6.NS.3

Item	Cost ($)
Pencil	0.75
Notebook	1.50
Marker	1.05
Pen	1.55

- ☐ 3 notebooks
- ☐ 4 pens
- ☐ 4 markers
- ☐ 6 pencils
- ☐ 3 markers and 2 pens
- ☐ 2 notebooks and 3 pencils

7. Katrina runs 4.23 miles each day. How many miles does she run in 2 weeks? 6.NS.3

8. Kami bought some material to make a blanket in the shape of a rectangle. The material costs $12.00 per square yard. How much did Kami pay for the material? 6.NS.3



9. Write the appropriate number of decimal places in each sum, difference, product, or quotient. Do not count a zero in the final decimal place. 6.NS.3

0	1	2
3	4	5

12.59 – 6.09 ☐ decimal places

0.75 × 0.9 ☐ decimal places

15.25 ÷ 0.25 ☐ decimal places

18 + 3.4 + 22.15 ☐ decimal places

1.945 × 3.8 ☐ decimal places

10. Manuel was examining the product of 48 × 0.73. He realized that he could create other multiplication problems that have the same product. Select whether each expression has the same product as 48 × 0.73. 6.NS.3

Yes	No	
☐	☐	43 × 0.78
☐	☐	4.8 × 7.3
☐	☐	0.48 × 73
☐	☐	7.8 × 4.3
☐	☐	480 × 0.073.

11. Zach walks at a rate of 2.83 miles per hour. Nora walks at a rate of 2.18 miles per hour. How many miles farther will Zach have walked after they each walk for 1.5 hours? 6.NS.3

12. A football stadium holds 55,296 people. The seating is divided into 36 sections. 6.NS.2

Part A: There is an equal number of seats in each section. How many seats are in each section?

Part B: The seats in each section are in 32 rows. There is an equal number of seats in each row. How many seats are in each row?

13. A principal paid $5.74 for one school shirt that displays the school mascot. 6.NS.3

Part A: Select all of the numbers of shirts that he could have purchased at that price.

- ☐ 12 shirts for $68.88
- ☐ 84 shirts for $493.64
- ☐ 125 shirts for $717.50
- ☐ 392 shirts for $2,284.52

Part B: During the first month on sale, the school store sold 186 shirts for $6.50 each. How much profit did the school make on these shirts?

14. Sort each number of miles and number of hours traveled into the appropriate bin to identify the rate in miles per hour. 6.NS.2

718 miles in 5.95 hours | 45.8 miles in 4 hours | 2,865 miles in 24.8 hours | 419.72 miles in 80.6 hours | 935.47 miles in 22.75 hours

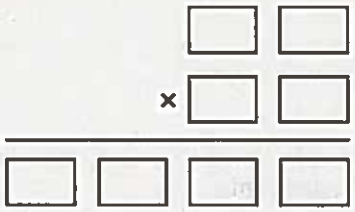
Less Than 10 Miles per Hour	Between 10 and 99 Miles per Hour	Greater Than 100 Miles per Hour

15. Althea wants to save $286.15 in a year to buy a new bicycle. She estimates that she needs to save $4.50 each week to reach her goal. Is Althea's estimate reasonable? Justify your answer. 6.NS.2

16. A garden is 22.5 feet wide and 58.1 feet long. 6.NS.3

Part A: About how many square feet is the garden? Write the appropriate numbers to estimate the area.

1	2	3	4	5
6	7	8	9	0



Part B: A 3.8-pound bag of fertilizer covers 1,000 square feet. Each bag costs $9.95. How many bags are needed to cover the garden? About how much will it cost to buy the bags of fertilizer?

Bags: ☐

Cost estimate: ☐

Part C: Were your estimates in Parts A and B reasonable? Explain. Use the actual square footage and cost of the bags in your explanation.

Area: ☐

Cost: ☐

17. A manufacturer makes paper clips that are shipped in boxes of 100. One day 4,725 paper clips were made and were packaged in 47 boxes with 25 clips left over. Select all of the division problems that have the same quotient of 47 R 25. 6.NS.2

- ☐ 1,811 ÷ 38
- ☐ 4,069 ÷ 86
- ☐ 5,052 ÷ 107
- ☐ 18,308 ÷ 389

18. The table shows the workout results of four joggers. 6.NS.3

Jogger	Distance (mi)	Time (h)
Wesley	7.7	3.50
Xavier	3.5	1.25
Yvette	4.224	1.76
Zubin	5.175	2.25

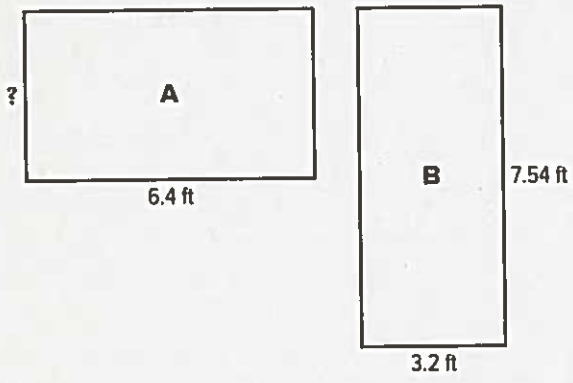
Complete the table to order the joggers from the slowest to fastest rate.

	Jogger	Rate (mph)
Slowest		
Fastest		

19. Joshua was experimenting with the division problem $0.72 \div 0.8$ and noticed that he could create other division problems with the same quotient. Select all of the division problems that have the same quotient. 6.NS.3

- ☐ $72 \div 8$
- ☐ $7.2 \div 8$
- ☐ $0.072 \div 0.008$
- ☐ $72 \div 80$

20. The two rectangles have the same area. What is the perimeter of rectangle A? 6.NS.3



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Chapter 4 Test

1. Henry is designing a rectangular flower garden and says the area is about 36 square feet. Select whether each set of dimensions could be the approximate dimensions of Henry's garden. 6.NS.1

Yes	No	
☐	☐	$3\frac{3}{4}$ feet wide by $8\frac{7}{8}$ feet long
☐	☐	$5\frac{5}{6}$ feet wide by $6\frac{1}{5}$ feet long
☐	☐	$2\frac{7}{8}$ feet wide by $7\frac{4}{5}$ feet long
☐	☐	$10\frac{2}{5}$ feet wide by $3\frac{4}{7}$ feet long

2. A farmer harvested 35 acres of corn and 20 acres of beans. Animals ate $\frac{1}{8}$ of the corn he originally planted. How many acres of corn did the farmer plant? 6.NS.1

3. Sort the fractions into the appropriate bins by their estimates. 6.NS.1

$\frac{5}{9}$ $\frac{1}{8}$ $\frac{2}{5}$ $\frac{3}{19}$ $\frac{3}{7}$

$\frac{7}{8}$ $\frac{6}{14}$ $\frac{9}{11}$ $\frac{2}{13}$ $\frac{10}{12}$

Estimate of 0	Estimate of $\frac{1}{2}$	Estimate of 1

4. Of all the sixth grade students in the school, 40 students wear glasses. Select whether each expression could represent the number of sixth grade students who wear glasses. 6.NS.1

Yes	No	
☐	☐	$\frac{1}{3}$ of 60 students
☐	☐	$\frac{2}{5}$ of 100 students
☐	☐	$\frac{3}{5}$ of 50 students
☐	☐	$\frac{8}{9}$ of 45 students

5. Write a word problem in which you divide two fractions, two mixed numbers, or a mixed number and a fraction. Solve your word problem and show how you found the answer. 6.NS.1

Problem:

Solution:

6. The answer to a multiplication problem is $\frac{3}{5}$. 6.NS.1

Part A: Select whether each statement is true or false.

True	False	
☐	☐	Both factors are less than $\frac{3}{5}$.
☐	☐	One factor is less than $\frac{3}{5}$; the other factor is greater than $\frac{3}{5}$.
☐	☐	Both factors are greater than $\frac{3}{5}$.

Part B: Write an example to support one of the true statements.

7. On a grid, $\frac{2}{3}$ of the squares are shaded with a color. One fourth of all the squares on the grid are shaded blue. What fraction of the shaded squares are blue squares? 6.NS.1

8. Write the appropriate number for each product or quotient. 6.NS.1

$1\frac{1}{4} \div 7\frac{1}{2} =$ ☐

$\frac{2}{3} \div 6\frac{1}{4} =$ ☐

$\frac{4}{5} \div \frac{2}{15} =$ ☐

$1\frac{1}{4} \times 7\frac{1}{2} =$ ☐

$6\frac{1}{4} \times \frac{2}{3} =$ ☐

$1\frac{1}{2} \div 6\frac{1}{4} =$ ☐

$1\frac{1}{2} \div \frac{4}{25} =$ ☐

$\frac{4}{5} \times \frac{2}{15} =$ ☐

$\frac{1}{6}$ $\frac{6}{25}$ $\frac{8}{75}$ $4\frac{1}{6}$ 6 $9\frac{3}{8}$

9. A survey asked 200 students to name their favorite fruit. The table shows the results of the survey. 6.NS.1

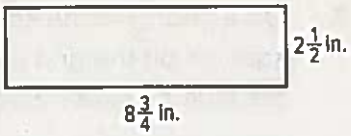
Fruit	Fraction of Students
Banana	$\frac{1}{8}$
Peach	$\frac{2}{5}$
Plum	$\frac{1}{10}$
Orange	$\frac{3}{8}$

Part A: How many students named a peach as their favorite fruit?

Part B: How many more students chose an orange rather than a plum? Justify your answer.

10. At an apple orchard, Margaret picked $19\frac{1}{2}$ pounds of apples. The cashier put the apples into 3 bags with the same weight. How many pounds of apples are in each bag? 6.NS.1

11. A bookcase has four identical, rectangular shelves. One shelf is shown. 6.NS.1



Part A: What is the total area of the four shelves?

Part B: How many books with spines that are $1\frac{1}{4}$ inches wide can fit on each shelf?

12. Two mixed numbers are divided. The quotient is $5\frac{1}{2}$. Select whether each statement is true or false. 6.NS.1

True	False	
☐	☐	Both the dividend and the divisor are less than $5\frac{1}{2}$.
☐	☐	The divisor is less than $5\frac{1}{2}$; the dividend is greater than $5\frac{1}{2}$.
☐	☐	Both the dividend and the divisor are greater than $5\frac{1}{2}$.
☐	☐	The dividend is less than $5\frac{1}{2}$; the divisor is greater than $5\frac{1}{2}$.

13. The length of a basketball court is 94 feet. 6.RP.3, 6.RP.3d

Part A: Sort the lengths into the appropriate bins by how each length compares to the length of a basketball court.

$\frac{1}{40}$ mi | 30 yd | $\frac{1}{20}$ mi | 1,128 in. | $102\frac{3}{5}$ ft

Less than 94 ft	Equal to 94 ft	Greater than 94 ft

Part B: What is the length of the basketball court in yards? Justify your answer.

14. A group orders 3 large veggie pizzas. Each slice represents $\frac{1}{8}$ of the entire pizza. The group eats $\frac{3}{4}$ of the pizza. How many slices of pizza are left? Justify your answer. 6.NS.1

15. Mrs. Benitez slices some oranges so that each wedge is $\frac{1}{4}$ of the orange. Then she cuts the same number of apples into pieces so that each piece is $\frac{1}{6}$ of the apple. Let n represent the number of each type of fruit. Select whether each statement is true or false. 6.NS.1

True	False	
☐	☐	There are $2n$ more pieces of apple than wedges of orange.
☐	☐	There are $n + 2$ more pieces of apple than wedges of orange.
☐	☐	There are $2n$ more wedges of orange than pieces of apple.
☐	☐	There are $n + 2$ more wedges of orange than pieces of apple.
☐	☐	The number of orange wedges can be represented by $n \div 4$.
☐	☐	The number of apple pieces can be represented by $n \div \frac{1}{6}$.

16. A tile pattern uses $\frac{1}{4}$ white tile, and the rest are colored tiles. Five colors are used equally. What fraction of the tile pattern is each color? 6.NS.1

17. A carpenter wants to cut a board $16\frac{1}{2}$ feet in length into $1\frac{7}{8}$ feet pieces. 6.NS.1

Part A: How many pieces can be cut from the board?

Part B: The carpenter cuts the leftover piece into four equal-length pieces. How long is each piece?

18. An adult elephant weighs 5,000 pounds. 6.RP.3, 6.RP.3d

Part A: Write the correct measurements in the boxes to show how to convert that weight to tons.

1 T	1 lb	1 oz	1 fl oz	16 oz	5,000 lb	8 fl oz
$2\frac{1}{2}$ T	$312\frac{1}{2}$ T	$\frac{2}{5}$ T	625 T	$\frac{2}{625}$ T	2,000 lb	1

$\frac{\square}{\square} \cdot \frac{\square}{\square} = \square$

Part B: A baby elephant weighs 260 pounds. How many ounces do the adult and baby elephants weigh together?

19. A brick of cheese is $\frac{3}{4}$ inch thick. A deli cuts the brick of cheese into slices that are $\frac{1}{10}$ inch thick. 6.NS.1

Part A: How many slices are cut from the brick of cheese?

Part B: What is the thickness of the leftover piece of cheese?

20. A bag of dog food weighs $31\frac{1}{4}$ pounds. After one week, $3\frac{1}{8}$ pounds of dog food was used. What fraction of the bag of dog food remains? 6.NS.1

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Chapter Test

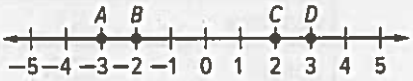
1. The eight values in the boxes show how much the price of one share of a stock has changed. Sort the amounts into the appropriate bins based on whether the stock is gaining value, losing value, or neither. (6.NS.5)

$3	$25	−$6	$47
−$20	−$35	$0	−$1

Gaining Value	Losing Value	Neither

2. Write the point on the number line that represents the integer described by each statement. (6.NS.6, 6.NS.6a)

A	B
C	D



Point ☐: the opposite of −3

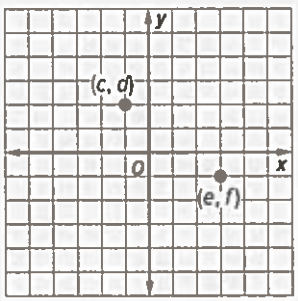
Point ☐: the opposite of −2

Point ☐: the opposite of 3

Point ☐: the opposite of 2

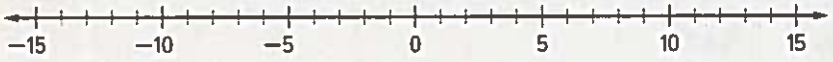
3. Two points are graphed on a coordinate plane. Graph and label the four ordered pairs on the coordinate plane. (6.NS.6, 6.NS.6b)

(−c, d) •	(−e, −f) •	(c, −d) •	(−e, f) •



4. A paleontologist uncovered a bone in a hole that is 4.5 feet deep. A bird was in a tree at a height of 10.5 feet. A catfish lay at the bottom of a lake at a depth of 12.5 feet. (6.NS.6, 6.NS.6c)

Part A: Graph the values given in the problem on the number line.



Part B: Nate claims that the catfish is closer to the surface of the water than either the bird or the bone is to ground level. Do you agree with his claim? Explain your reasoning.

5. The freezing point of water is 0°C. The table shows the temperature of a water sample that each student recorded during a science lab. (6.NS.7, 6.NS.7b)

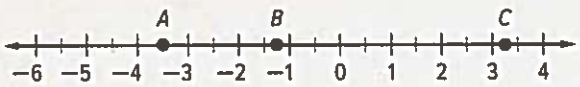
Student	Sample Temperature (°C)
Karen	−23.4
Claudia	37
Jamal	99.9
Mateo	−3.89

Part A: Write the temperatures in order from coldest to hottest.

Coldest **Hottest**

Part B: Mateo realizes he made an error in recording the temperature of his water sample. He should have recorded the temperature as −38.9°C. How does this new information change your answer to Part A?

6. Select whether each inequality about the coordinates of the points on the number line is true or false. (6.NS.6, 6.NS.6a, 6.NS.7, 6.NS.7a)



True	False	
☐	☐	$A > B$
☐	☐	$C > B$
☐	☐	$C < A$
☐	☐	$A < 0$

7. Identify the phrase that *cannot* be described by the same absolute value expression as the other three. Explain your reasoning. (6.NS.7, 6.NS.7c)

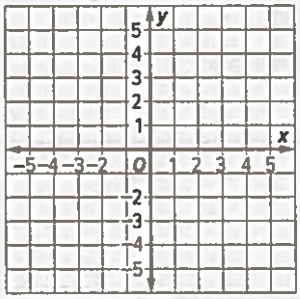
winning 6 marbles	owing $3	6° below normal	account balance of –$6

8. Lucia has a checking account. Her bank will not honor any check she writes that will make her account balance less than –$20. Lucia wrote her landlord a check. When the check is cashed, her checking account will have a balance of –$10. Explain whether or not the bank will honor the check Lucia wrote to her landlord. (6.NS.7, 6.NS.7d)

9. The coordinate plane represents a city, with (0, 0) as the city's center. Each unit on the city's coordinate plane represents 1 mile. The table shows the location of four city-owned buildings. (6.NS.8)

Building	Location
A	(1, 0)
B	(–2, 3)
C	(–2, –4)
D	(3, –4)

Part A: On the coordinate plane, graph and label the ordered pairs that show the locations of Buildings *A*, *B*, *C*, and *D*.

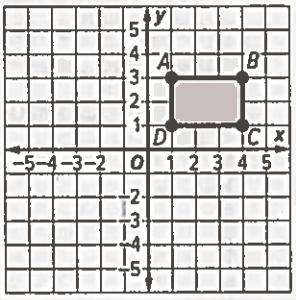


Part B: Find the distance between buildings *C* and *D*: ☐ miles

10. Let *s* be an integer. Alonso claims that –*s* must always be less than 0. Iliana claims that –*s* is only sometimes less than 0. Whose statement is correct? Explain. Support your reasoning with an example. (6.NS.6, 6.NS.6a)

11. Omar divided a circular pizza into 8 equal sections. He gave his friend 3 sections. Explain why the amount he gave to his friend can be represented by a point plotted to the right of 0 on a number line. Then write the amount he gave to his friend as a decimal. (6.NS.6)

12. Michael models the landscaping features in a yard on a coordinate plane. A patio is represented by figure *ABCD*. The pond is located at (4, –1). A bench is located at (–4, 3). A clock is located at (–1, –1). A water feature is located at (1, –3). Select whether each statement is true or false in representing the points. (6.NS.6, 6.NS.6b)



True	False	
☐	☐	The pond is located at the reflection of point *C* across the *x*-axis.
☐	☐	A bench is located at the reflection of point *B* across the *y*-axis.
☐	☐	A clock is located at the reflection of point *D* across the *x*-axis.
☐	☐	A water feature is located at the reflection of point *A* across the *y*-axis.

13. Mrs. Ortiz measured the outside temperature at noon as –2°F. Later that day, she measured the temperature as –5°F. Write an inequality that correctly compares –2 and –5. Then explain the meaning of the inequality for the situation. (6.NS.7, 6.NS.7b)

14. Katie owes Mathias $10 and Cabrini $5. Katie has $3 in her pocket. (6.NS.5)

Part A: Explain the meaning of 0 in this situation.

Part B: Graph the integers given in the problem on the number line.

15. Afia's school is plotted at (–8, –3) on a coordinate plane. Her babysitter's house is located at (8, –3). What is the distance between Afia's school and her babysitter's house? Explain how you solved the problem. (6.NS.8)

16. The table indicates Imamu's data usage over the last four months. Positive values indicate the amount of data that went over his data package plan, and negative values indicate the amount of data that was under the plan. Identify the month that Imamu used the least amount of data. Justify your response. (6.NS.7, 6.NS.7d)

Month	Data (GB)
January	0.75
February	–2.25
March	1
April	–1.5

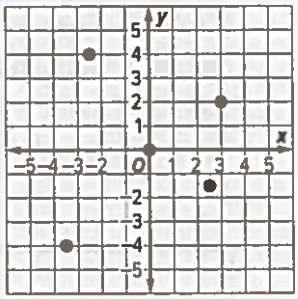
17. The average amount of time customers waited to get their food at a restaurant was 25 minutes. The table shows the difference between the average times and the actual times customers at four tables waited to get their food. Select whether each statement is true or false about the time spent waiting. (6.NS.7, 6.NS.7b)

Table	Average Time – Actual Time Waiting (min)
A	$2\frac{1}{2}$
B	$-3\frac{1}{2}$
C	4.5
D	–5.75

True	False	
☐	☐	The time spent waiting at Table A is greater than the time spent waiting at Table B.
☐	☐	The time spent waiting at Table C is farther from 0 on a number line than the time spent waiting at Table D.
☐	☐	The time spent waiting at Table A is greater than the time spent waiting at Table C.
☐	☐	The customers at Table D spent the least time waiting.

18. The temperature in a freezer is set at –18°C. The temperature in a refrigerator is 21° warmer. Should the temperature of the refrigerator be represented by a positive integer or negative integer? Explain your reasoning. (6.NS.6, 6.NS.6a)

19. Robert's house is represented by (0, 0) on the coordinate plane. A landscape planner suggested Robert plant trees at $\left(-3\frac{1}{2}, 4\right)$, $\left(2\frac{1}{2}, -2\frac{1}{2}\right)$, $\left(-4\frac{1}{2}, -4\right)$, and (3, 2). Did Robert correctly plot the location of the four trees? Justify your answer. (6.NS.6, 6.NS.6c)



20. Consider this set of expressions. (6.NS.7, 6.NS.7c)

$|3|$ $\quad -|4|$ $\quad |-2| + |-3|$ $\quad |-5| - |4|$

Part A: Simplify each expression.

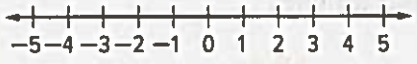
A: $|3| =$ ☐

B: $-|4| =$ ☐

C: $|-2| + |-3| =$ ☐

D: $|-5| - |4| =$ ☐

Part B: Graph each value on the number line. Label the points.



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Chapter 6 Test

1. A teacher wrote the expression 4^5 on the board. Select all of the expressions that are equivalent to 4^5. 6.EE.1

- ☐ 4×5
- ☐ $4 + 4 + 4 + 4 + 4$
- ☐ $4 \times 4 \times 4 \times 4 \times 4$
- ☐ $5 \times 5 \times 5 \times 5$

2. A farmer has a square-shaped pen for his chickens. 6.EE.1

Part A: Write a power that represents the enclosed area. What is the area of the chicken pen?

Power: ☐

Square yards: ☐

Part B: The farmer needs to know the size of the chicken pen in square feet. Write a power that represents the enclosed area using feet, not yards. What is the area of the pen?

Power: ☐

Square feet: ☐

3. Using the numbers, write two powers that have the same value. 6.EE.1

2	3	4	9

Using each number only once: $\square^{\square} = \square^{\square}$

Using the numbers more than once: $\square^{\square} = \square^{\square}$

4. Select whether each expression simplifies to a value of 4. 6.EE.1

Yes	No	
☐	☐	$3 + 8 \div 2 \times 4$
☐	☐	$2 \times 5 - 4 \div 1$
☐	☐	$12 \div (8 - 6 + 1)$
☐	☐	$9 \div 3 \times 3 + 3$

5. Hanako is curious to know how easy it is to write a power that has a value greater than 100. 6.EE.1

Part A: Sort the powers into their appropriate bins by how each compares to 100.

10^2 | 5^3 | 2^5 | $\left(\frac{3}{4}\right)^8$ | $(7.5)^4$ | $(9.93)^2$

Less than 100	Equal to 100	Greater than 100

Part B: Between what two consecutive powers of 3 does 100 lie?

6. The expression $4(n + 8)$ represents the cost of 4 friends going to a ball game. Each person pays $\$n$ admission plus \$8 for a team towel to wave. Select all the phrases that describe the expression $(n + 8)$. 6.EE.2, 6.EE.2b

- ☐ a product of two factors
- ☐ a constant
- ☐ a coefficient
- ☐ a factor
- ☐ like terms
- ☐ a sum of two terms
- ☐ a quotient

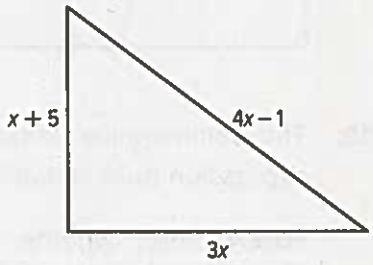
7. The width of a rectangle is x. The length is 5 times the width. 6.EE.2

Part A: Select all of the expressions that represent the length of the rectangle.

- ☐ $5x$
- ☐ $x + 5$
- ☐ $5 \cdot x$
- ☐ $5(x)$
- ☐ $\frac{5}{x}$

Part B: The width of the rectangle is 4 units. How many units is the perimeter?

8. The side lengths of a triangle are shown. Let x be 4 units. How many units is the perimeter of the triangle? Justify your answer. 6.EE.2, 6.EE.2c



9. Juan has 3 more marbles than Ed. Let n represent the number of Ed's marbles. 6.EE.2, 6.EE.2c

Part A: Circle all of the expressions that represent the number of Juan's marbles.

$3n$	$3 - n$	$3 \div n$	$n + 3$
$3 + n$	$n \div 3$	$n - 3$	$3 \cdot n$

Part B: Ed has 11 marbles. How many marbles does Juan have?

10. A fitness club charges its members a one-time fee of $40 and a monthly rate of $25. Let m represent the number of months. Write an expression for the total amount paid after m months. Then find how much a customer will have paid after 5 months. 6.EE.2, 6.EE.2a, 6.EE.6

Expression: _____

Cost: _____

11. In the last basketball game, Kevin scored 2 less than a third of his team's points. 6.EE.2, 6.EE.2a, 6.EE.6

Part A: Let n represent the number of points Kevin's team scored. Write an expression for the number of points Kevin scored.

_____

Part B: Kevin scored 14 points. How many points did the team score?

_____

12. The Commutative Property states that the order of terms in an expression does not affect the outcome. 6.EE.3

Part A: Select whether each operation is true or false under the Commutative Property.

True	False	
☐	☐	addition
☐	☐	subtraction
☐	☐	multiplication
☐	☐	division

Part B: For a statement you marked as true in Part A, give an example that shows the Commutative Property applies.

_____

Part C: For a statement you marked as false in Part A, give an example that shows that the Commutative Property does not apply.

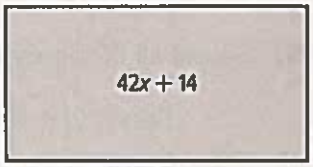
_____

13. Select all of the statements that are an example of an Identity Property. 6.EE.3

- ☐ $n - n = 0$
- ☐ $n + 0 = n$
- ☐ $n \cdot 1 = n$
- ☐ $n \div n = 1$

14. Antonio was trying to find 6 × 82 when his calculator stopped working. Show how he could use the Distributive Property to mentally find the product. 6.EE.3, 6.NS.4

15. The area of the rectangle is $42x + 14$. Select whether each set of dimensions could be the width and length of the rectangle. 6.EE.3, 6.NS.4



Yes	No	
☐	☐	width 7; length $6x + 2$
☐	☐	width 21; length $2x + 0.5$
☐	☐	width 2; length $7 + 21x$
☐	☐	width $3x + 1$; length 14
☐	☐	width 6; length $7x + 8$

16. The table shows the cost of some school supplies. Migina wants to buy 3 pencils, 4 pens, and 2 notebooks. 6.EE.1, 6.NS.3

Item	Cost
Pencils	$0.29
Pens	$1.45
Notebooks	$2.25

Part A: Write an expression to find the total cost of the items she wants to buy.

Part B: Migina has a $20 bill. Does she have enough money to buy the items she wants? Explain how you solved the problem.

17. A rectangular vegetable garden is $(x + 3)$ feet wide and $(2x + 7)$ feet long. 6.EE.3

Part A: Write an expression for the number of feet of fencing that is needed to completely enclose the garden. Justify your answer.

Part B: Let $x = 5$. How many feet of fencing are needed?

18. A square has a perimeter given by the expression $20x + 24y$. Write an expression for the length of one side of the square. 6.EE.3

19. Select all of the expressions that simplify to $11x + 10$. 6.EE.4

- ☐ $3(3x + 2) + 4 + 2x$
- ☐ $2(5x + 4) + x + 2$
- ☐ $3x + 2(3x + 5)$
- ☐ $x + 3(3x + 1) + x + 9$
- ☐ $3(x + 3) + x + 2(3x + 1)$

20. Select all of the expressions that have $3x + 2y$ as one of their factors. 6.EE.4

- ☐ $18x + 12y$
- ☐ $3x + 4y + 4x + 2y$
- ☐ $4x + y + 2x + 3y$
- ☐ $6x + 9y$

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Chapter 7 Test

1. Select all of the equations for which the solution is 4. (6.EE.5)

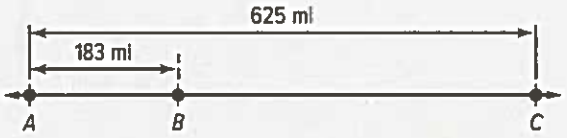
- ☐ $5x = 20$
- ☐ $13 - n = 9$
- ☐ $22 \div n = 5.5$
- ☐ $x + 13 = 17$

2. Loviano bought an apple and an orange. He paid a total of $1.84. The apple cost $0.78. (6.EE.7)

Part A: Let n represent the cost of the orange. Write an addition equation to find the cost of the orange.

Part B: Solve the equation. How much did Loviano pay for the orange?

3. The number line shows the distances between three towns: *A*, *B*, and *C*. (6.EE.7)



Part A: Write an addition equation to represent the number of miles n from Town B to Town C.

Part B: Solve the equation to find the number of miles from Town B to Town C.

4. The table shows the distances some landmarks are from the Nature Center. The eagle's nest is 1.6 kilometers farther from the Nature Center than the waterfall. Write and solve an addition equation to find how far the Nature Center is from the waterfall. (6.EE.7)

Landmark	Distance to Nature Center (km)
Big rock	0.85
Waterfall	x
Eagle's nest	3.25

5. Joey and Armando live on the same street as a city park. The park is $\frac{9}{10}$ mile from Joey's home. Joey leaves home and walks to Armando's home. Then he and Armando walk $\frac{3}{5}$ mile to the park. Write and solve an equation to find how far Joey walked to get to Armando's home. (6.EE.7)

6. Select whether each equation is an example of the Addition Property of Equality. (6.EE.7)

Yes	No	
☐	☐	$x + 3 = 7$ $x + 3 - 3 = 7 - 3$
☐	☐	$x - 7 = 10$ $x - 7 + 7 = 10$
☐	☐	$x - 1.5 = 4.5$ $x - 1.5 + 1.5 = 4.5 + 1.5$
☐	☐	$x - \frac{2}{3} = \frac{4}{5}$ $x - \frac{2}{3} + \frac{2}{3} = \frac{4}{5} + \frac{4}{5}$

7. Peter is 12 years old. Peter is 5 years younger than his brother. (6.EE.7)

Part A: Let n represent the age of Peter's brother. Write a subtraction equation to find the age of Peter's brother.

12	5	n	+
−	×	÷	=

Part B: Solve the equation to find the age of Peter's brother.

8. Martha bought a shirt for $12.64. (6.EE.7)

Part A: The shirt was discounted $8.75. Write a subtraction equation to find the original cost of the shirt n.

Part B: Solve the equation to find the original price of the shirt.

9. Circle all of the equations that have the same solution as the equation $m - 10 = 6$. (6.EE.7)

$6 = y + 10$ $\quad$ $48 = 3a$ $\quad$ $5 + n = 21$ $\quad$ $2x = 8$

$8 = \frac{x}{2}$ $\quad$ $18 = n - 2$ $\quad$ $\frac{a}{10} = 6$ $\quad$ $y - 6 = 10$

10. Kenji wants to know how many quarters equal $7.50. Select whether each equation represents the number of quarters q that equal $7.50. (6.EE.7)

Yes	No	
☐	☐	$q + 0.25 = 7.50$
☐	☐	$0.25q = 7.50$
☐	☐	$\frac{q}{0.25} = 7.50$
☐	☐	$q - 0.25 = 7.50$

11. Select all of the equations that can be solved in one step by dividing each side by 8. (6.EE.7)

- ☐ $\frac{n}{8} = 2$
- ☐ $4n = 8$
- ☐ $8n = 24$
- ☐ $24 = n - 8$
- ☐ $40 = 8n$
- ☐ $n + 8 = 16$

12. The equation $P = 4n$ relates the perimeter P of a square to the length of a side n. (6.EE.7, 6.RP.3)

Part A: The side length of a square is 8.5 inches. What is the perimeter?

Part B: The perimeter of a square is 60 inches. What is the side length?

Part C: One side of a square measures 10 inches. What is the perimeter in feet?

13. Bethany solved the equation $3x = 12$. Her work is shown. Select whether each statement is true or false. (6.EE.7)

$$3x = 12$$
$$3x - 3 = 12 - 3$$
$$x = 9$$

True	False	
☐	☐	Bethany solved the equation correctly.
☐	☐	Bethany should have divided each side by 3 instead of subtracting.
☐	☐	Bethany should have multiplied each side by 3 to get $x = 36$.
☐	☐	The solution should be $x = 4$.

14. Hakeem drives his car at a constant rate of 60 miles per hour. (6.RP.3, 6.EE.7)

Part A: Hakeem travels 450 miles. Write a multiplication equation to find the number of hours n he drove.

Part B: Solve the equation to find how long Hakeem drives on his trip.

☐ hours

15. A teacher wrote the equation $\frac{x}{5} = 3$ on the board.

Part A: Write the numbers or letter to make each statement true. (6.EE.7)

15	5	3
1	$\frac{1}{5}$	x

The variable is ☐.

The coefficient of x is ☐.

The quotient is ☐.

To solve, multiply each side of the equation by ☐.

Part B: Find the value of x that makes the equation true.

16. The quotient of a number n and 6 is 9. (6.EE.7)

Part A: Write an equation to find the number.

Part B: Solve the equation to find the number n.

17. Selena solved $\frac{x}{7} = 14$ by dividing each side by 7. She found that $x = 2$. Describe and correct Selena's error. 6.EE.7

18. Write the appropriate numbers in the spaces to show the solution of each equation. (6.EE.5)

2	3	4	6	8
9	12	16	18	20

$\frac{n}{2} = 6$	$12 - n = 4$	$2n = 18$	$n + 6 = 12$
$n =$ ☐	$n =$ ☐	$n =$ ☐	$n =$ ☐

19. Jingdan is trying to solve the equation $\frac{n}{5} = 12$. Select whether each statement is true or false. (6.EE.5)

True	False	
☐	☐	The equation $5n = 12$ has the same solution as Jingdan's equation.
☐	☐	The equation $5 = \frac{n}{12}$ has the same solution as Jingdan's equation.
☐	☐	The equation $n - 12 = 48$ has the same solution as Jingdan's equation.
☐	☐	Jingdan was correct in adding 5 to each side to solve his equation.
☐	☐	Jingdan was correct in multiplying each side by 12 to solve his equation.
☐	☐	The solution to Jingdan's equation is 60.

20. Solve the equation $a = b - c$ for b. Select all of the expressions that are equivalent to b. (6.EE.7)

- ☐ $a \times c$
- ☐ $a + c$
- ☐ $a - b$
- ☐ $a - c$
- ☐ $c + a$
- ☐ $c - a$

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Chapter 7b Test

1. Isabel plans to make apple pies. She buys a pack of pie pans for $10 and some apples for $2 per pound. (6.EE.2, 6.EE.2c)

Part A: Complete the table to show Isabel's total cost for the various amounts of apples.

Apples (lb), x	$2x + 10$	Cost ($), y
2	2(2) + 10	
4		
6		
8		

Part B: Isabel buys 15 pounds of apples. What is the total cost?

2. The expression $\frac{9}{5}C + 32$ can be used to determine the temperature in degrees Fahrenheit, given the temperature C in degrees Celsius. Chuck claims that for any temperature less than 0°C, the temperature in degrees Fahrenheit will always be less than 0°F. Is Chuck's claim true? Justify your answer. (6.EE.2, 6.EE.2c)

3. The table shows the total cost of admission to a museum for different numbers of guests. Select whether each statement is true or false. (6.EE.9)

Museum Admission	
Number of Guests, x	Total Cost ($), y
1	9
2	18
3	27
4	36

True	False	
☐	☐	The total cost for 14 guests is $22.
☐	☐	The total cost for 8 guests is $72.
☐	☐	The equation $y = x + 8$ can be used to find the total cost for x guests.
☐	☐	The equation $y = 9x$ can be used to find the total cost for x guests.

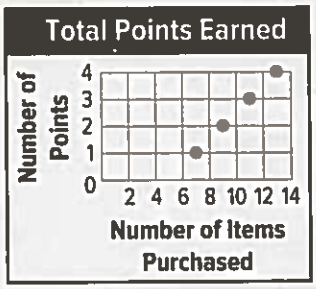
4. A store's rewards program awards 5 points for joining and 2 points for every item purchased. Select all of the representations that determine the number of reward points earned. (6.EE.9)

☐

Items Purchased, x	1	2	3	4
Number of Points, y	7	9	11	13

☐ $y = 5 + 2x$, where y represents the total number of points earned, and x represents the number of items purchased.

☐



5. An infant car seat manufacturer uses the inequality $w \leq 22$, where w is the infant's weight in pounds, to determine the weight of infants who can be safely transported in their car seats. Sort the names of the infants shown in the table into their appropriate bins based on their weights. (6.EE.5)

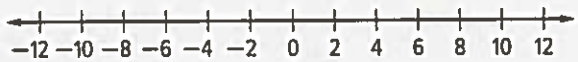
Name of Infant	Weight (lb)
Marion	20
Taye	18
Quincy	22
Sonia	23
Beth	15
Cory	40

Can be Transported Safely	Cannot be Transported Safely

6. Emilio has at least 6 coins in his piggy bank. Let c represent the number of coins in the bank. (6.EE.6, 6.EE.8)

Part A: Write an inequality to represent this situation.

Part B: Graph the inequality on the number line.



7. Consider the inequality $x + 7 \geq 12$. (6.EE.5)

Part A: Select whether each value of x makes the inequality true.

Yes	No	
☐	☐	$x = 3.75$
☐	☐	$x = 5$
☐	☐	$x = 8\frac{5}{8}$
☐	☐	$x = -19$

Part B: Kiah claims that all of the values of x that make $x + 7 \geq 12$ true are the same values of x that make $x + 7 > 12$ true. Is Kiah's claim correct? Justify your answer.

8. Five groups of people are standing in line to buy concert tickets. The table shows the number of tickets each group wants to buy. (6.EE.2)

Group Number, x	Number of Tickets
1	1
2	4
3	7
4	10
5	13

Part A: The pattern in the table continues. How many tickets does Group 6 want to buy?

Part B: Use the pattern in the table to write a rule for the number of tickets each group wants to buy.

9. Jorge wrote the phrase "7 more than the product of 6 and the number n" to represent the values in an arithmetic sequence. He let n represent a number's position in the sequence. (6.EE.6)

Part A: Write the appropriate numbers and symbols to create an expression that represents Jorge's statement.

1	6	7	n
+	−	×	÷

☐ ☐ ☐ ☐

Part B: What are the first five numbers in the sequence?

10. The library does not charge a fee for books returned no more than 3 days late in a month. The library does charge a monthly late fee represented by $\$1.25(d - 3)$ where $d > 3$. The table shows the number of days late d for four months that Margaret borrowed books. Find the total late fees Margaret was charged in the four months. (6.EE.8)

Month	Number of Days Late, d
January	5
February	1
March	3
April	7

11. An office box has a height of 1.5 inches. Jen claims that a stack of 9 of these office boxes will have an overall height of 6 inches. Use the rule $h = 1.5n$, where n is the number of boxes and h is the total height, to determine if Jen's claim is true. Justify your answer. (6.EE.9)

12. A sales associate at a furniture store receives a bonus of $200 for every couch she sells. Her goal is to earn at least $1,250 in bonuses. (6.EE.6, 6.EE.8)

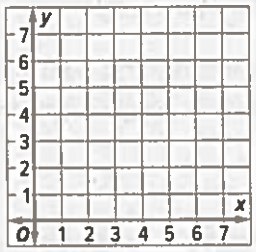
Part A: Write an inequality to represent the number of couches the associate must sell to reach her goal. Identify any variables you include.

Part B: Solve the inequality for your variable. What is the least number of couches the associate must sell to reach her goal?

Inequality: _____ _____ couches

13. The table shows the relationship between x and y. Graph the given ordered pairs. Then complete the table. (6.EE.9)

Input (x)	Output (y)
0	0
1	2
1.5	
2	4
3	6
x	



14. Select whether each statement can be represented by the equation $y = 0.1x + 2$.(6.EE.9)

Yes	No	
☐	☐	A server earns 10% of a check plus $2.
☐	☐	Students must solve two test items of their choice and 10% of the remaining items.
☐	☐	10% of the workers received 2 bonuses.
☐	☐	A veterinarian wants a dog to lose $\frac{1}{10}$ of its weight plus 2 pounds.
☐	☐	It is 2 degrees cooler than $\frac{1}{10}$ of the temperature in Florida.

15. Sort the values of x into the appropriate bin based on the inequality $17 > 20 - x$.(6.EE.5)

$x = 0$	$x = 2$	$x = 5$	$x = 3$	$x = 6$	$x = 10$

Solution	Not a Solution

16. A bicyclist takes 3 hours to travel 12 miles to a campsite. He cycles at least 1 mile but no more than 5 miles during the first hour. He cycles at least 2 miles during the second hour. He cycles exactly 3 miles during the third hour. Find the least number of miles the bicyclist could have traveled during the second hour.(6.EE.8)

17. Doug earns at most x dollars per day. His wife earns at least twice as much per day as Doug. Select whether each statement is true or false in representing their incomes.(6.EE.6)

True	False	
☐	☐	Doug and his wife could earn $\$3x$ per day.
☐	☐	Doug and his wife could earn $(3x - 1)$ dollars per day.
☐	☐	If Doug earns $100 in a day, he and his wife could earn a total income of $150 that day.

18. Lorena determined that she weighs 3 pounds more than 4 times the weight of her baby brother Omar. She represented her weight with the expression $4x + 3$, where x is Omar's weight. Lorena weighs 67 pounds. How many more pounds does Lorena weigh than Omar? (6.EE.9)

19. Consider the sequence: 1, 4, 16, 64, ... Describe the pattern. Then determine the sixth term in the sequence. (6.EE.9)

Sixth term:

20. For each function table, write the corresponding equation in the space provided. (6.EE.9)

$y = 5x + 1$ | $y = x + 5$ | $y = x + 1$ | $y = 2x - 1$ | $y = 3x - 2$

Input (x)	1	2	3	4
Output (y)	6	7	8	9

Equation:

Input (x)	1	2	3	4
Output (y)	1	3	5	7

Equation:

Input (x)	1	2	3	4
Output (y)	6	11	16	21

Equation:

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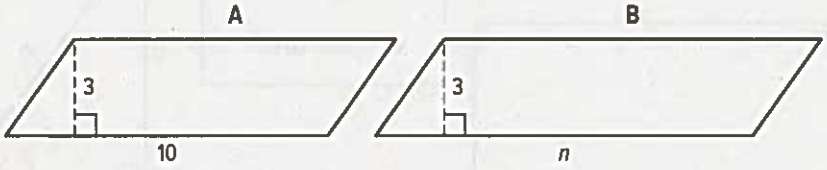
Chapter 9 Test

1. Select all of the base and height dimensions of a parallelogram with an area of 12 square feet. 6.G.1

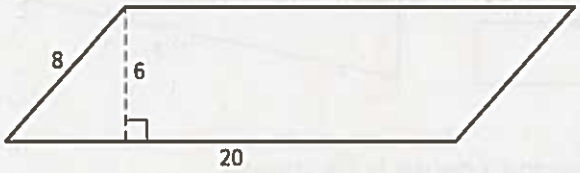
- ☐ base = 2 ft, height = 4 ft
- ☐ base = 3 ft, height = 8 ft
- ☒ base = 5 ft, height = 2.4 ft
- ☒ base = 12 ft, height = 1 ft
- ☐ base = 3 ft, height = 3 ft

2. The diagram shows two parallelograms. For what value of n is the area of parallelogram B twice the area of parallelogram A? 6.G.1



20 units

3. The diagram shows a sign that Alice is designing for a restaurant. The sign is in the shape of a parallelogram. 6.G.1



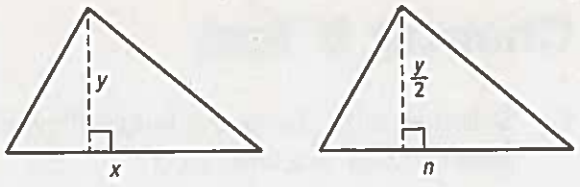
Part A: Alice wants to paint the front of the sign blue before adding white lettering. One quart of paint covers 100 square feet. How many quarts of blue paint does she need to buy? Justify your answer.

2 qt; The area is 6(20) = 120 ft^2. Because 1 quart covers 100 ft^2, she needs to buy 2 qt of paint.

Part B: Alice wants to string lights around the edges of the sign. A box of lights contains 12 linear feet of lights. How many boxes of lights does Alice need to buy? Justify your answer.

5 boxes; The perimeter is 2(20) + 2(8) = 56 ft. Because each box contains 12 ft of lights, she needs 56 ÷ 12 ≈ 4.6, which rounds up to 5 boxes.

4. The two triangles shown have the same area. Select whether each statement is true or false in representing the dimensions of the triangles. 6.G.1



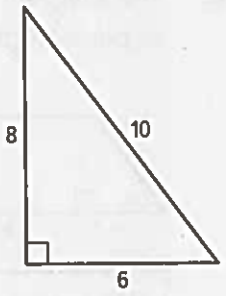
Not drawn to scale.

True	False	
☐	☐	$n = \frac{x}{2}$
☐	☐	$n = x$
☐	☐	$n = 2x$
☐	☐	$n = 4x$
☐	☐	$x = \frac{n}{2}$

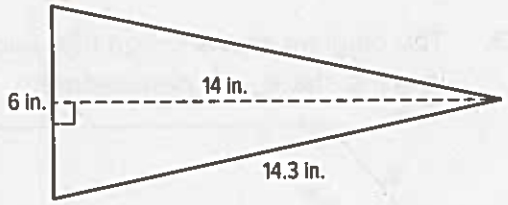
5. Andrew found the area of the triangle. His work is shown. Describe and correct Andrew's error. 6.G.1

$A = \frac{1}{2} \cdot 6 \cdot 10$

$A = 30 \text{ unit}^2$



6. The diagram shows the pennant hanging on Henrietta's bedroom wall. How much wall space does the pennant cover? 6.G.1



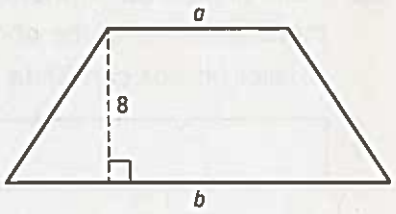
7. The area of the triangular plot in front of Adrianna's house is 28 square feet. Select all of the sets of dimensions that could be the dimensions of the triangular plot. 6.G.1

- ☐ base = 4 feet, height = 7 feet
- ☐ base = 20 feet, height = 2.8 feet
- ☐ base = 7 feet, height = 16 feet
- ☐ base = 14 feet, height = 4 feet
- ☐ base = 2 feet, height = 7 feet

8. The area of a trapezoid is 20 square units. The sum of the base lengths is 10 units. What is the height of the trapezoid? 6.G.1

9. The stage in a theater is in the shape of a trapezoid. The length of the front of the stage is 80 feet. The length of the back of the stage is 50 feet. The distance from the front to the back of the stage is 40 feet. What is the area of the stage? 6.G.1

10. The trapezoid shown has an area of 80 square units. Select all of the possible values for a and b. 6.G.1



- ☐ $a = 4$ units, $b = 6$ units
- ☐ $a = 5$ units, $b = 15$ units
- ☐ $a = 7$ units, $b = 9$ units
- ☐ $a = 18$ units, $b = 2$ units

11. The dimensions of a rectangular canvas are multiplied by a factor of 5 to create a new canvas. Select whether each statement is true or false in representing how the new canvas compares to the original canvas. 6.G.1

True	False	
☐	☐	The perimeter of the new canvas is 5 times greater.
☐	☐	The perimeter of the new canvas is 10 times greater.
☐	☐	The perimeter of the new canvas is 25 times greater.
☐	☐	The area of the new canvas is 5 times greater.
☐	☐	The area of the new canvas is 25 times greater.

12. The carpeting that Elizabeth has selected for her bedroom floor is sold by the square yard. The floor measures 10 feet by 12 feet. 6.G.1

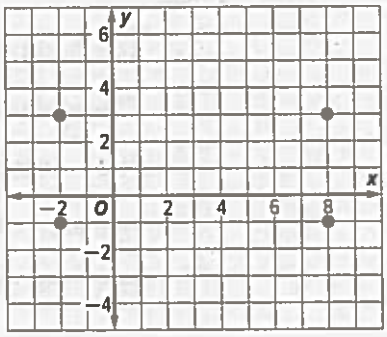
Part A: How many square feet are in one square yard?

Part B: How many square yards of carpeting will Elizabeth need to carpet the entire bedroom floor?

13. Carla printed out a photo on a standard sheet of paper. Then she reduced the dimensions of the photo to be $\frac{1}{4}$ the original dimensions. How many smaller photos can Carla print on the same standard sheet of paper? 6.G.1

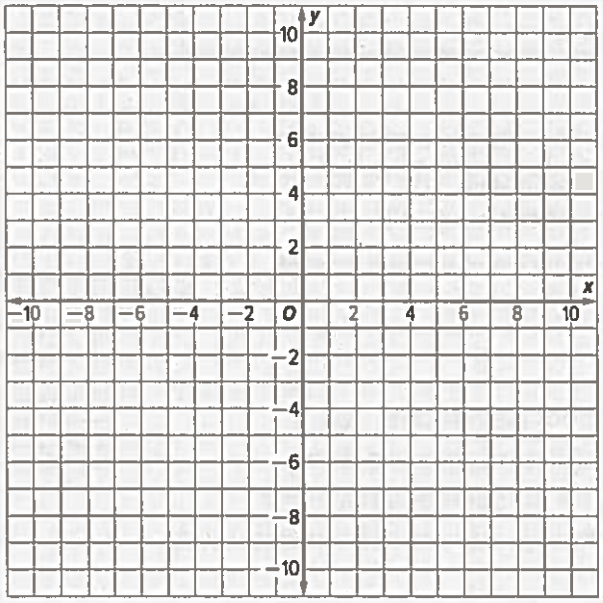
14. The perimeter of one square is $8x$. The perimeter of another square is $6x$. What is the ratio of the area of the smaller square to the area of the larger square? 6.G.1

15. The locations of four corner flags of a soccer field are plotted on the coordinate plane. Diego points out that 1 square unit on the coordinate plane represents 60 square feet. What is the area of the soccer field? Explain how you found your answer. 6.G.1, 6.G.3, 6.NS.8



16. Yoruba is creating a logo on a coordinate plane. She identifies the vertices of the logo as (2, –1), (3, 5), (6, 5), and (7, –1). 6.G.1, 6.G.3, 6.NS.8

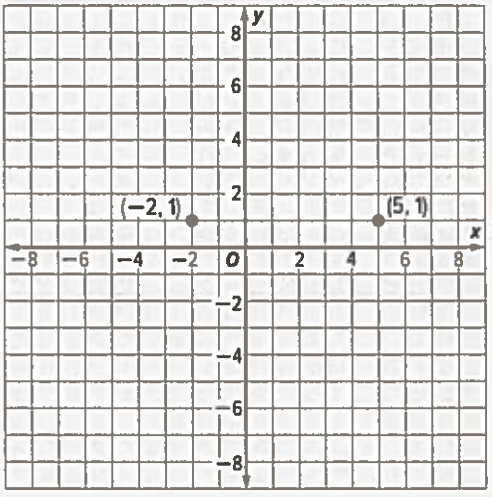
Part A: Graph the ordered pairs that show the vertices of the logo, and connect the vertices to outline the shape of the logo.



Part B: What is the area of the logo?

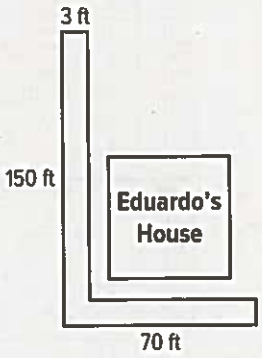
17. A rectangle has a perimeter of 20 units and an area of 21 square units. The coordinate plane shows two vertices of the rectangle. Select all of the ordered pairs that could represent the other two vertices of the rectangle. 6.G.1, 6.G.3, 6.NS.8

- ☐ (0, –2) and (10, –2)
- ☐ (–2, 4) and (5, 4)
- ☐ (–2, 8) and (5, 8)
- ☐ (–2, –2) and (5, –2)
- ☐ (1, 1) and (8, 1)

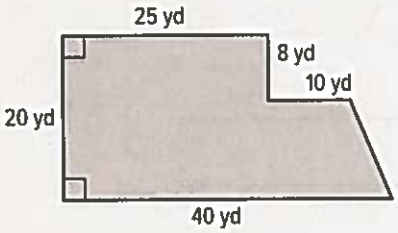


18. Aaron wants to paint a wall in his office. There are two windows in the wall. The windows have dimensions of 4 feet by 3 feet. The height of the wall is 8 feet and the width is 12 feet. What area of wall is to be painted? 6.G.1

19. Eduardo lives on the corner of two streets. The diagram shows the dimensions of the sidewalk around Eduardo's house. The width of the sidewalk is 3 feet. What is the total area of the sidewalk? 6.G.1



20. The diagram shows the dimensions of a school playground. The student council wants to paint the surface of the playground in the school color. A one-gallon can of paint covers 40 square yards. How many cans of paint will they need? Explain how you found the answer. 6.G.1



NAME _____ DATE _____ PERIOD _____ SCORE _____

Chapter 8 Test

1. A fish tank has a width of 4 feet, a length of 3 feet, and a height of 2.5 feet. Ariana fills the tank with water until the height of the water is 12 inches from the top of the tank. What is the volume of water in the fish tank? (6.G.2)

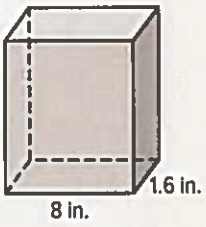
6	12	18	20
22.5	24	30	144

[ ] ft^3

2. The ratio of side lengths of two square prisms is 2:3. What is the ratio of the volumes? (6.G.2)

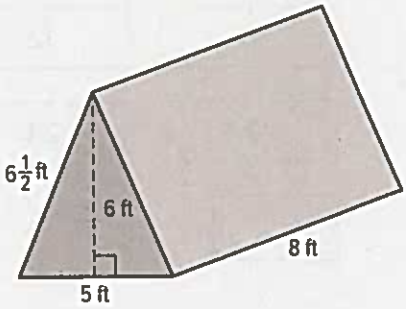
3. A sporting goods company ships products in a 30-inch by 20-inch by 10-inch rectangular carton. Footballs are packaged in a 5-inch by 5-inch by 8-inch box. The company places 20 football boxes in a carton and fills the rest of the space with packing material. What volume of space was filled with packing material? Explain your answer. (6.G.2)

4. The volume of the cereal box shown is 121.6 cubic inches. The height of the shelves in Valerie's pantry is 10.75 inches. Is it possible for Valerie to place this cereal box in an upright position on her pantry shelf? Justify your response. (6.G.2)



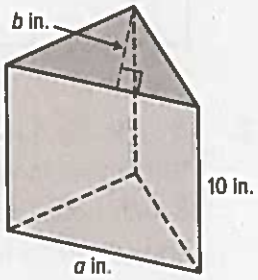
5. Edgardo created a rectangular prism with a square base. The volume of the prism is 45 cubic inches. The dimensions of the prism are all whole numbers. What is the height of the prism? (6.G.2)

6. The diagram shows the tent the Wilsons used on a camping trip. The front and back of the tent are isosceles triangles. Write the number and measurement to indicate the capacity of the tent. (6.G.2)



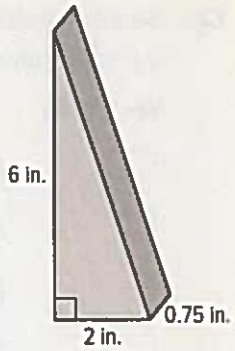
240	174	144	ft^2
136	130	120	ft^3

7. The diagram shows the dimensions of a triangular prism. Select all of the values for a and b that would give the prism a volume of 90 cubic inches. (6.G.2)



- ☐ $a = 1, b = 9$
- ☐ $a = 3, b = 6$
- ☐ $a = 4, b = 9$
- ☐ $a = 9, b = 2$
- ☐ $a = 3, b = 3$

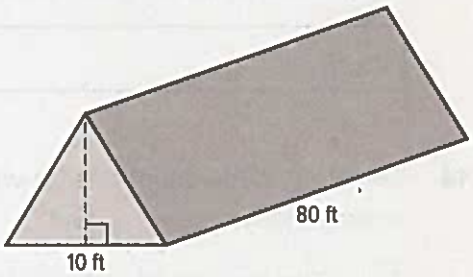
8. The diagram shows the dimensions of a building block. A set of these blocks is packaged in a box 10 inches long, 6 inches wide, and 3 inches high. What is the greatest number of blocks in a set? (6.G.2)



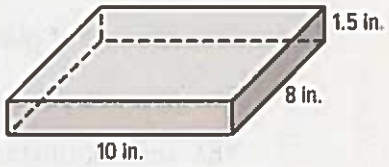
9. The volume of a triangular prism is equal to half the volume of a rectangular prism. Select whether each statement is true or false. (6.G.2)

True	False	
☐	☐	Each dimension of the triangular prism is half the measure of the corresponding dimension of the rectangular prism.
☐	☐	The two prisms have the same dimensions.
☐	☐	Each dimension of the triangular prism is twice the measure of the corresponding dimension of the rectangular prism.
☐	☐	The dimensions of the two prisms are never equal.

10. The diagram shows a 3,300-cubic-foot greenhouse. What is the height of the greenhouse? (6.G.2)



11. The diagram shows the gift box Fernando plans to wrap. He wants to use the least amount of wrapping paper needed to completely cover the box. A sheet of wrapping paper is 600 square inches. How much wrapping paper would Fernando have left after wrapping the box? (6.G.4)



12. Select whether each statement is a method for finding the surface area of a rectangular prism with length ℓ, width w, and height h. 6.G.4

Yes	No	
☐	☐	Find the product of ℓ, w, and h.
☐	☐	Find ℓwh, and then divide the product by 2.
☐	☐	Find $\ell w + h\ell + wh$, and then multiply the sum by 2.
☐	☐	Find $\ell w + h\ell + wh + wh + h\ell + \ell w$.

13. The dimensions of rectangular prism X are twice the dimensions of rectangular prism Y. 6.G.4

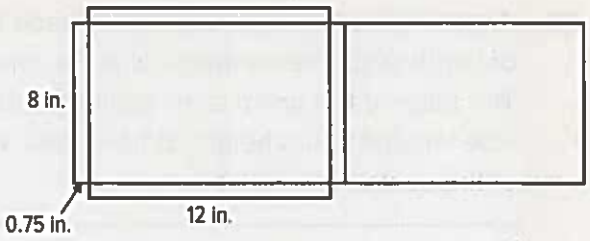
Part A: The surface area of prism X is 100 square inches. What is the surface area of prism Y?

Part B: The dimensions of rectangular prism Z are three times the dimensions of rectangular prism Y. What is the surface area of prism Z?

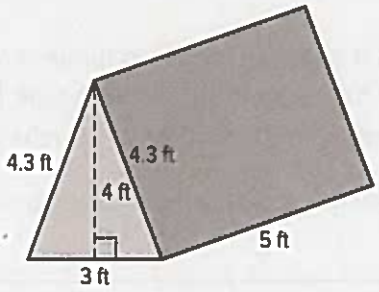
14. Select all of the situations for which surface area is the appropriate measure. 6.G.4

- ☐ The amount of water inside a fish tank.
- ☐ The amount of glass needed to make a fish tank.
- ☐ The amount of space inside a wooden toy chest.
- ☐ The amount of stain needed to paint a wooden toy chest.

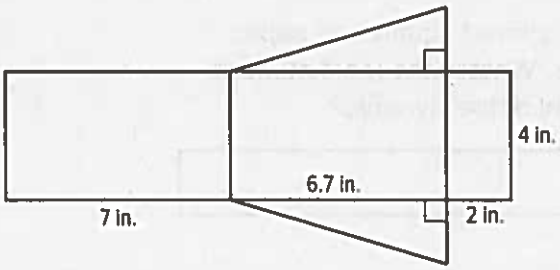
15. The diagram shows the net of a cardboard box. How much cardboard is needed to make the box? (6.G.4)



16. The diagram shows the dimensions of a canvas tent. How much canvas fabric does Charlie need to make the tent, including the floor? (6.G.4)



17. The diagram shows the net of a three-dimensional solid. (6.G.2, 6.G.4)



Part A: Identify the name of the solid represented by the net.

Part B: Find the surface area and volume of the solid.

Surface area:

Volume:

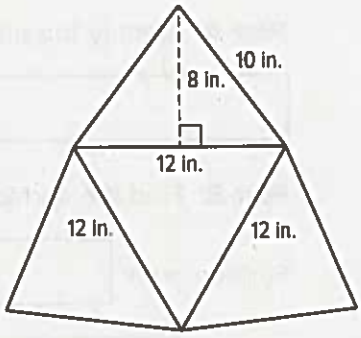
18. A mailing container for posters is made from 87.4 square inches of cardboard. The container is in the shape of a triangular prism. The base of the prism is an equilateral triangle with 2-inch side lengths and a height of 1.7 inches. What is the length of the container? 6.G.4

19. David uses a sheet of paper to make a model of an Egyptian pyramid. The model has a square base with side lengths of 4 inches. The slant height of the model is 5 inches. 6.G.4

Part A: How much paper was used to make the model, including the base?

Part B: David wants to cover his model with colored squares of paper. Each colored square has 1.5-inch side lengths. What is the least number of colored squares needed to cover the model of the pyramid?

20. The diagram shows a net of a triangular pyramid. 6.G.4



Part A: What is the lateral area of the triangular pyramid?

Part B: What additional steps are needed to find the surface area of the triangular pyramid?

NAME _____ DATE _____ PERIOD _____ SCORE _____

Chapter Test

1. In 7 days, Jessica walked an average of 30 minutes per day. Select whether each set of data has the same average as Jessica. (6.SP.3)

Yes	No	
☐	☐	30, 30, 30, 30, 30, 30, 30
☐	☐	20, 24, 25, 30, 31, 32, 35
☐	☐	30, 30, 30, 20, 15, 25, 40
☐	☐	40, 20, 15, 22, 32, 40, 41

2. Greg earned \$15, \$18, \$12, \$20, and \$25 for each of five lawns he mowed. Greg wants to earn a mean of \$20 per lawn. How much must he charge for his next mowing job? Justify your answer. (6.SP.3)

3. The table shows the number of personalized greeting cards that artists created to send to veterans. (6.SP.3)

Greeting Cards Made	
Artist	**Number of Cards**
Gilberto	36
Isabel	35
Taye	40
Selam	38
Kenji	34
Sue	81

Part A: What is the mean number of cards created?

Part B: How does the number of cards Sue made affect the mean of the data?

4. Larry needs to gather data for a science report. Select whether each question can be classified as a statistical question. (6.SP.1)

Yes	No	
☐	☐	What is the distance between Mars and Earth?
☐	☐	How many articles were published in various science magazines about planets last year?
☐	☐	What percent of students know that the sun is a star and not a planet?
☐	☐	How many moons does each planet have?

5. The list shows the number of seconds it took eight phones to receive the same text message. (6.SP.3, 6.SP.5, 6.SP.5c)

4 5 7 4 2 6 3 5

Part A: Write the appropriate value(s) for each data measure.

number of data values: ☐

mean: ☐

median: ☐

modes: ☐ and ☐

range: ☐

interquartile range: ☐

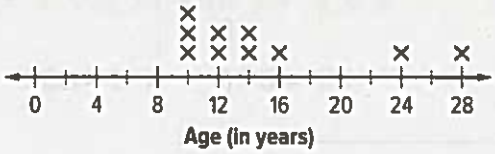
2	5
3	6.5
3.5	7
4	8
4.5	9

Part B: What is the mean absolute deviation of the data? Explain how you found your answer.

6. The table shows the shoe sizes of a group of boys. Find and compare the median and mode of the data. (6.SP.5, 6.SP.5c)

Shoe Size			
6	8	7	6
10	9	7.5	5
5	5.5	6	7.5

7. The line plot shows the ages of people enrolled in a pottery class. Select all of the data values that are outliers. (6.SP.5, 6.SP.5c)



- ☐ 10
- ☐ 12 and 14
- ☐ 16
- ☐ 24
- ☐ 28

8. The table shows the number of trees in some city parks. (6.SP.3, 6.SP.5, 6.SP.5c)

Number of Trees in City Parks			
20	22	34	50
42	28	20	52

Part A: Order the values from least to greatest, and find the median.

Part B: Determine the first quartile and third quartile.

Part C: What is the range of the data? What is the interquartile range?

9. A student conducted a survey by asking 20 people, "Do you know how to knit, crochet, do both, or do neither?" The results showed that 7 people knit and 5 people crochet. Of these people, 4 know how to do both. How many of those surveyed do not know how to knit or crochet? (6.SP.1)

10. The double stem-and-leaf plot shows the temperature, in degrees Fahrenheit, taken on the hour in two different classrooms. (6.SP.3, 6.SP.5, 6.SP.5c)

Room 100		Room 103
	6 | 5	
8 5 5 4 2 0	7 | 0 0 0 2 3 3 4	
0	8 |	
8|6 = 68°F		6|5 = 65°F

Part A: What is the median temperature for each room?

Part B: What are the range and interquartile range for each room? Justify your answer.

Part C: Compare and contrast the measures of variation for both rooms.

11. The table shows the hourly parking fees of three different garages. Margaret found the mean absolute deviation as 0.75. Explain Margaret's error. (6.SP.5, 6.SP.5b, 6.SP.5c)

Hourly Parking Fee	
Garage A	$5.50
Garage B	$9.00
Garage C	$6.50

12. The table shows the maximum speeds of car drivers on a residential road. Circle the values that are more than one mean absolute deviation away from the mean. (6.SP.5, 6.SP.5b, 6.SP.5c)

Maximum Speeds (mph)			
35	36	32	40
37	38	29	33

29 32 33 35

36 37 38 40

13. The list shows the number of phone calls made by five people in one month: 132, 28, 40, 35, 20. Select whether each statement is true or false in representing the data. (6.SP.3, 6.SP.5, 6.SP.5c)

True	False	
☐	☐	The median better represents the data than the mean.
☐	☐	The mean is less than the median.
☐	☐	The range is affected by the outlier.
☐	☐	The mode is affected by the outlier.

14. A company pays seven employees $10 per hour and one employee $60 per hour. (6.SP.5, 6.SP.5c)

Part A: Find the median and mean of the hourly wages.

Part B: The company claims that their employees earn an average of $16.25 per hour. Assume you were interviewing for a job at this company. What question should you ask to validate the claim?

Part C: Which measure(s) of center best describe(s) the data? Explain.

15. For each data set, write the most appropriate measure of center. Use each answer once. (6.SP.5, 6.SP.5d)

mean
median
mode

_____ Club fees: $35, $225, $36, $45, $60

_____ Age of dancers: 51, 25, 64, 51, 51, 51

_____ Number of lunges: 9, 9, 17, 24, 20, 16, 30

16. Fatima asked, "How tall is the tallest female in your household?" Is her question a statistical question? If so, explain why it is statistical. If not, rephrase it so it is a statistical question. (6.SP.1)

17. The list shows the number of homework problems out of ten that Juan answered correctly for eight assignments: 9, 4, 10, 6, 10, 8, 7, 10. Select whether each statement is true or false in representing the data. (6.SP.3)

True	False	
☐	☐	10 is a mode of the data set.
☐	☐	8 is the median of the data set.
☐	☐	8.5 is the mean of the data set.
☐	☐	There is no mode in the data set.

18. Use the data: 27, 21, 22, 20, 21, 23, 25, 25, 25, 26, 26, 27. Write the appropriate term to correctly complete each statement. (6.SP.5, 6.SP.5b, 6.SP.5c)

The _____ is approximately 2.

The _____ is 25.

The _____ is 24.

interquartile range

mean

median

mean absolute deviation

19. The data show the time, in seconds, that members of a track team ran 100 meters: 11, 12, 11, 10, 20, 12, 12, 11. Sort the terms into the appropriate bin based on the effect of the outlier. (6.SP.3)

mean

median

mode

Affected by the Outlier	Not Affected by the Outlier

20. The table shows the number of times students have visited their state capital. Describe the effect on the mean when the outlier is removed from the data. Justify your answer. (6.SP.5, 6.SP.5d)

Visits to the State Capital		
0	1	3
2	4	3
2	1	11

NAME _____ DATE _____ PERIOD _____ SCORE _____

Chapter 12 Test

1. Select whether each statement is true or false about data represented by a line plot. (6.SP.5, 6.SP.5a, 6.SP.5b)

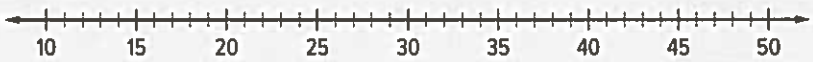
True	False	
☐	☐	Each individual data value is shown.
☐	☐	The mean is more easily determined than the mode.
☐	☐	The median cannot be computed.
☐	☐	The range can be easily computed.

2. The table shows the amount of time 15 students spent reading last night. (6.SP.4, 6.SP.5, 6.SP.5c)

Time Spent Reading (min)				
45	38	27	15	45
30	40	27	18	24
15	45	18	22	27

Part A: Complete the line plot to represent the data.

Time Spent Reading (min)

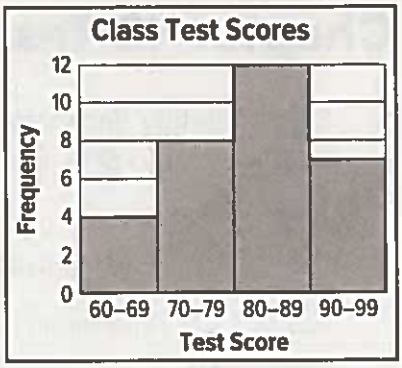


Part B: Find the median, the mode(s), and the interquartile range.

3. Select whether each statement is true or false about data represented by a histogram with intervals on the horizontal axis. (6.SP.5, 6.SP.5a, 6.SP.5b)

True	False	
☐	☐	Each individual data value is shown.
☐	☐	The median can be easily identified.
☐	☐	The mode can be easily identified.
☐	☐	The bars touch each other because the data are in ranges with consecutive intervals.

4. The histogram shows test scores for one class. Select whether each statement is true or false. (6.SP.5, 6.SP.5c)

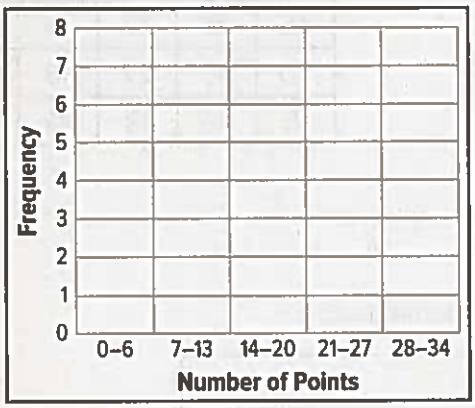


True	False	
☐	☐	The mode is 85.
☐	☐	Twelve students scored below 80.
☐	☐	The median is in the interval 80–89.
☐	☐	The range is 39.

5. The table shows the number of points Michael scored in each of 20 games. (6.SP.4, 6.SP.5, 6.SP.5a)

Number of Points Scored				
22	15	0	9	16
9	11	22	30	27
15	18	31	15	2
10	16	8	27	23

Part A: Complete the histogram to represent the data.

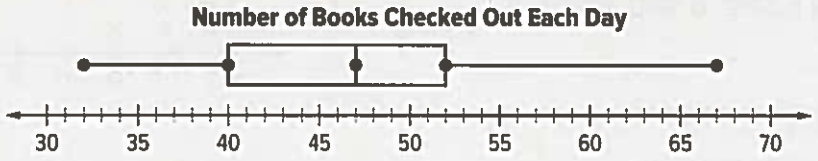


Part B: In how many games did Michael score more than 13 points?

6. Select whether each statement is true or false in representing data by a box-and-whisker plot. (6.SP.5, 6.SP.5a, 6.SP.5b)

True	False	
☐	☐	The mean is located outside of the box.
☐	☐	The median can be easily determined.
☐	☐	The mode is always a point inside of the box.
☐	☐	The range can be computed from two of the plotted points.
☐	☐	The number of data values can be determined.

7. The box-and-whisker plot shows the number of books checked out of a library each day. Select all of the statements that are valid. (6.SP.5, 6.SP.5c)

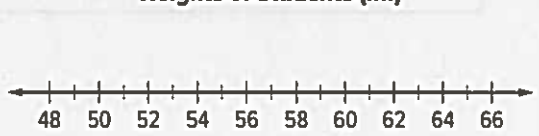


- ☐ There are more data values from 52 to 67 than from 32 to 40.
- ☐ Half the values are between 40 and 52.
- ☐ The least number of books checked out is 32.
- ☐ There are the same number of values between 47 and 52 as from 52 to 67.

8. The table shows the heights, in inches, of 15 students. (6.SP.4, 6.SP.5, 6.SP.5c)

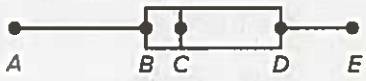
Heights of Students (in.)				
50	60	58	64	62
52	61	54	60	50
53	62	58	55	60

Part A: Complete the box-and-whisker plot to represent the data.



Part B: What is the interquartile range?

9. The diagram shows some points on a box-and-whisker plot. Write the appropriate point or expression that corresponds to each measure. (6.SP.5, 6.SP.5c)



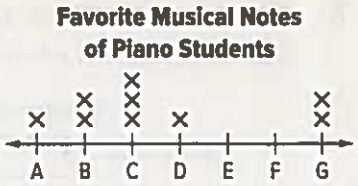
$D - B$	$E - A$	A to C	E	D to E	C

Median: ☐ Range: ☐

Interquartile range: ☐ Greatest value: ☐

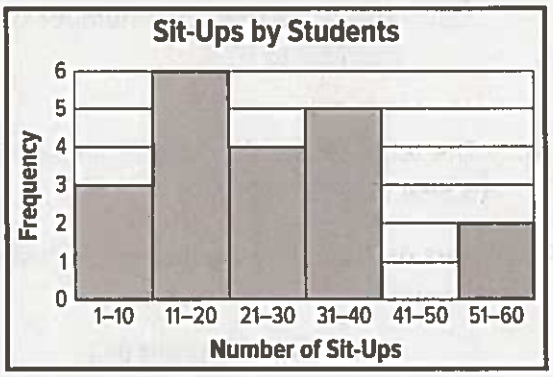
Same number of values as from A to B: ☐

10. Piano students were asked to name their favorite musical note. The line plot shows the survey results. Select whether each statement is true or false.(6.SP.2, 6.SP.5, 6.SP.5c)



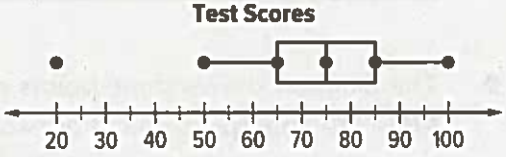
True	False	
☐	☐	There is a peak in the data.
☐	☐	There is a gap in the data.
☐	☐	The distribution is symmetrical.
☐	☐	There is a data cluster.

11. A survey asked students how many sit-ups they completed in a physical education class. The histogram shows the results. Answer each question about the data in the histogram. (6.SP.2, 6.SP.5, 6.SP.5c)



Yes	No	
☐	☐	Is there an outlier in the interval 51–60?
☐	☐	Is there a gap from 41–50?
☐	☐	Is the distribution symmetrical?
☐	☐	Is the peak 15 sit-ups?
☐	☐	Is there a cluster from 1–40?

12. Select whether each statement is true or false in representing the data shown by the box-and-whisker plot.(6.SP.5, 6.SP.5c)



True	False	
☐	☐	There is an outlier at 20.
☐	☐	There is a peak at 75.
☐	☐	The distribution is symmetrical.
☐	☐	There is a gap from 20 to 50.

13. Select all of the situations that are best represented with a line graph. 6.SP.4

- ☐ the high temperature recorded each day for a week
- ☐ the test scores of students in a class
- ☐ the population in a town for each of eight years
- ☐ the amount of protein in a protein bar

14. Joseph wants to make a data display so that the median is easily identifiable. What type of data display should he use? Explain. 6.SP.4, 6.SP.5, 6.SP.5d

15. Juanita wants to display her standardized test scores for the last few years. What type of display should she use? Explain. 6.SP.4

16. Harold created a line plot to show research data. He now wants to present the data using a different type of display that shows the data in categories. 6.SP.4

Part A: What other type of display should Harold use?

Part B: Compare the line plot with the display you identified in Part A. How are the two displays alike and how are they different?

17. A principal wants to make a data display of the amount of time the 500 students in the school spend on homework each evening. What type of data display should the principal use? Explain your choice. 6.SP.4

18. A set of data has an outlier. Which measures of center and spread would be more appropriate to represent the data: mean and mean absolute deviation, or median and interquartile range? Explain your reasoning. 6.SP.5, 6.SP.5c, 6.SP.5d

19. Select all of the displays that show individual data values. 6.SP.4, 6.SP.5, 6.SP.5a

- ☐ bar graph
- ☐ histogram
- ☐ line plot
- ☐ line graph
- ☐ box-and-whisker plot

20. Select all of the statements that are valid in representing the data shown in the line graph. 6.SP.4

- ☐ The temperatures increase from June to July.
- ☐ The temperatures increase from August to September.
- ☐ The greatest change in temperature is between September and October.
- ☐ The highest temperatures are in August.