

Conics – Review Worksheet

Identify each of the following as a circle, ellipse, hyperbola, line or parabola.

1. $3x^2 + 2x - y + 3 = 0$
2. $3x^2 + 3y^2 - 12x + 18y - 6 = 0$
3. $4x^2 + 3y^2 - 12x + 21y - 6 = 0$
4. $3x + 5y - 6 = 0$
5. $2x^2 - y^2 + 5x - 6y + 3 = 0$
6. $5x^2 + 5y^2 - 3x + 2y - 7 = 0$
7. $-2x^2 - 3y^2 + 7x - 8y + 2 = 0$
8. $x^2 - 3y + 4 = 0$
9. $x^2 - 2y^2 + 6x - 8y + 2 = 0$

Write each of the following conics in standard form. Find the center of each, and find the length of the radius of any circle.

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| 10. $9x^2 + 16y^2 - 36x + 96y + 36 = 0$ | 11. $x^2 + y^2 + 10x - 6y - 2 = 0$ |
| 12. $4x^2 - 9y^2 - 48x - 18y + 99 = 0$ | 13. $25y^2 - 4x^2 + 100y + 32x - 64 = 0$ |
| 14. $x^2 + y^2 - 14x + 10y + 65 = 0$ | 15. $y = 3x^2 - 15x + 12$ |
| 16. $36x^2 + 4y^2 - 144x - 24y + 36 = 0$ | 17. $2x^2 + 2y^2 - 12x + 24y + 66 = 0$ |

Graph each of the following conics. Label the center, all vertices, and foci.

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| 18. $9x^2 + 4y^2 - 72x + 16y + 124 = 0$ | 19. $4x^2 - 25y^2 + 16x - 150y - 309 = 0$ |
| 20. $x^2 + y^2 - 5x - 3y - \frac{1}{2} = 0$ | 21. $-9x^2 + 4y^2 + 72x - 8y - 176 = 0$ |
| 22. $4x^2 + 16y^2 + 40x - 96y + 180 = 0$ | 23. $x^2 + y^2 - 6x + 8y + 9 = 0$ |