

Math Worksheets

Conic Sections in Standard Form

 Classify each conic section and write its equation in standard form.

1) $x^2 + y^2 - 2x + 2y - 1 = 0$

5) $x^2 - y^2 - 14x - 15 = 0$

2) $4x^2 - 16x + y^2 = 0$

6) $3x^2 - y + 12x + 7 = 0$

3) $x^2 - y - 16x + 59 = 0$

7) $y^2 + 16y + 4x^2 + 52 = 0$

4) $x^2 - 9y^2 - 54y - 90 = 0$

8) $y^2 - x - 6y + 3 = 0$

 Classify each conic section. (Not in Standard Form)

9) $x^2 + y^2 - 6x + 6y - 9 = 0$

16) $x^2 - 16x + y^2 + 16y - 48 = 0$

10) $x + 4y^2 - 30y + 84 = 0$

17) $2x^2 + 2y^2 + 25y - 25x + 60 = 0$

11) $x^2 - 2x + 2y^2 - 16y^2 + 16 = 0$

18) $x^2 + 4x - 9y^2 + 40y - 54 = 0$

12) $x^2 - 25y^2 - 250y - 595 = 0$

19) $y = 8x^2 + 80x + 160$

13) $y^2 + 8x^2 - 80x + 75 = 0$

20) $9x^2 + 16y^2 - 25y + 42x + 50 = 0$

14) $x^2 + 4y^2 - x + 10y - 9 = 0$

21) $-x^2 - 49x + y^2 - 36y - 169 = 0$

15) $4x^2 + y^2 + 15y + 45 = 0$

22) $x^2 - 9y^2 - 16y + 48 = 0$

Answers of Worksheets

Conic Sections in Standard Form

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|---|---------------|
| 1) Circle, $(x - 1)^2 + (y + 1)^2 = 3$ | 11) Hyperbola |
| 2) Ellipse, $\frac{(x-2)^2}{4} + \frac{y^2}{16} = 1$ | 12) Hyperbola |
| 3) Parabola, $y = (x - 8)^2 - 5$ | 13) Ellipse |
| 4) Hyperbola, $\frac{x^2}{9} - (y + 3)^2 = 1$ | 14) Ellipse |
| 5) Hyperbola, $\frac{(x-7)^2}{64} - \frac{y^2}{64} = 1$ | 15) Ellipse |
| 6) Parabola, $y = 3(x + 2)^2 - 5$ | 16) Circle |
| 7) Ellipse, $4x^2 + (y + 8)^2 = 12$ | 17) Circle |
| 8) Parabola, $x = (y - 3)^2 - 6$ | 18) Hyperbola |
| 9) Circle | 19) Parabola |
| 10) Parabola | 20) Ellipse |
| | 21) Hyperbola |
| | 22) Hyperbola |