Precalculus Name_____ ID: 1

Identify the conic section

Date_____ Period____

Identify each conic section. Write a sentence(s) explaining how you know. Then write each equation in standard form.

1) $x^2 + y^2 + 18x - 32y + 333 = 0$

2) $-16x^2 + y^2 + 10y - 119 = 0$

3) $4x^2 + 9y^2 - 56x + 162y + 349 = 0$

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

5) $-y^2 - 14x = -x^2 + 2y - 23$

6) $x^2 + y^2 + 12x - 24y + 164 = 0$

7) $x = 13y^2 - 78y + 125$

8) $313 - 252x - 16y + 4y^2 = -36x^2$

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1) $x^2 + y^2 + 18x - 32y + 333 = 0$

$(x + 9)^2 + (y - 16)^2 = 4$

2) $-16x^2 + y^2 + 10y - 119 = 0$

$\frac{(y + 5)^2}{144} - \frac{x^2}{9} = 1$

3) $4x^2 + 9y^2 - 56x + 162y + 349 = 0$

$\frac{(x - 7)^2}{144} + \frac{(y + 9)^2}{64} = 1$

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

$x = -\frac{1}{3}y^2 + 2y + 4$

5) $-y^2 - 14x = -x^2 + 2y - 23$

$\frac{(x - 7)^2}{25} - \frac{(y + 1)^2}{25} = 1$

6) $x^2 + y^2 + 12x - 24y + 164 = 0$

$(x + 6)^2 + (y - 12)^2 = 16$

7) $x = 13y^2 - 78y + 125$

$\frac{1}{13}(x - 8) = (y - 3)^2$

8) $313 - 252x - 16y + 4y^2 = -36x^2$

$\frac{\left(x - \frac{7}{2}\right)^2}{4} + \frac{(y - 2)^2}{36} = 1$