

Completing the Square

Date _____ Block _____

Use the information provided to write the standard form equation of each circle.

1) $x^2 + y^2 - 4x + 12y + 15 = 0$

2) $x^2 + y^2 - 4x + 30y + 213 = 0$

3) $x^2 + y^2 + 26x + 8y + 160 = 0$

4) $x^2 + y^2 - 12x - 26y + 201 = 0$

5) $x^2 + y^2 - 16x + 24y + 172 = 0$

6) $x^2 + y^2 - 32x + 30y + 475 = 0$

7) $x^2 + y^2 + 26x - 26y + 311 = 0$

8) $x^2 + y^2 + 4x + 28y + 196 = 0$

9) $x^2 + y^2 - 6x + 8y - 24 = 0$

10) $x^2 + y^2 - 14x + 28y + 232 = 0$

Use the information provided to write the vertex form equation of each parabola.

11) $-y^2 + 4x + 8y - 52 = 0$

12) $-y^2 + 20x + 8y + 64 = 0$

13) $-4x^2 + 48x + y - 143 = 0$

14) $x^2 - 18x + 19y + 214 = 0$

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

Use the information provided to write the transformational form equation of each parabola.

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

17) $y^2 + 13x - 12y + 10 = 0$

18) $x^2 + y + 9 = 0$

19) $-16y^2 + x + 320y - 1602 = 0$

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

Completing the Square

Date _____ Block _____

Use the information provided to write the standard form equation of each circle.

1) $x^2 + y^2 - 4x + 12y + 15 = 0$

$$(x - 2)^2 + (y + 6)^2 = 25$$

2) $x^2 + y^2 - 4x + 30y + 213 = 0$

$$(x - 2)^2 + (y + 15)^2 = 16$$

3) $x^2 + y^2 + 26x + 8y + 160 = 0$

$$(x + 13)^2 + (y + 4)^2 = 25$$

4) $x^2 + y^2 - 12x - 26y + 201 = 0$

$$(x - 6)^2 + (y - 13)^2 = 4$$

5) $x^2 + y^2 - 16x + 24y + 172 = 0$

$$(x - 8)^2 + (y + 12)^2 = 36$$

6) $x^2 + y^2 - 32x + 30y + 475 = 0$

$$(x - 16)^2 + (y + 15)^2 = 6$$

7) $x^2 + y^2 + 26x - 26y + 311 = 0$

$$(x + 13)^2 + (y - 13)^2 = 27$$

8) $x^2 + y^2 + 4x + 28y + 196 = 0$

$$(x + 2)^2 + (y + 14)^2 = 4$$

9) $x^2 + y^2 - 6x + 8y - 24 = 0$

$$(x - 3)^2 + (y + 4)^2 = 49$$

10) $x^2 + y^2 - 14x + 28y + 232 = 0$

$$(x - 7)^2 + (y + 14)^2 = 13$$

Use the information provided to write the vertex form equation of each parabola.

11) $-y^2 + 4x + 8y - 52 = 0$

$$x = \frac{1}{4}(y - 4)^2 + 9$$

12) $-y^2 + 20x + 8y + 64 = 0$

$$x = \frac{1}{20}(y - 4)^2 - 4$$

13) $-4x^2 + 48x + y - 143 = 0$

$$y = 4(x - 6)^2 - 1$$

14) $x^2 - 18x + 19y + 214 = 0$

$$y = -\frac{1}{19}(x - 9)^2 - 7$$

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

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

Use the information provided to write the transformational form equation of each parabola.

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

$$y + 5 = (x - 3)^2$$

17) $y^2 + 13x - 12y + 10 = 0$

$$-13(x - 2) = (y - 6)^2$$

18) $x^2 + y + 9 = 0$

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

19) $-16y^2 + x + 320y - 1602 = 0$

$$\frac{1}{16}(x - 2) = (y - 10)^2$$

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

$$-4(y - 3) = (x - 3)^2$$