

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

1) $x^2 + y^2 + 8x - 6y + 16 = 0$

$(x + 4)^2 + (y - 3)^2 = 9$

3) $x^2 + y^2 - 24x + 6y + 152 = 0$

$(x - 12)^2 + (y + 3)^2 = 1$

5) $x^2 + y^2 - 20x + 28y + 280 = 0$

$(x - 10)^2 + (y + 14)^2 = 16$

7) $x^2 + y^2 + 22x + 120 = 0$

$(x + 11)^2 + y^2 = 1$

9) $x^2 + y^2 + 24x - 12y + 155 = 0$

$(x + 12)^2 + (y - 6)^2 = 25$

2) $x^2 + y^2 + 2x + 6y - 71 = 0$

$(x + 1)^2 + (y + 3)^2 = 81$

4) $x^2 + y^2 + 8y - 33 = 0$

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

6) $x^2 + y^2 - 18x - 30y + 297 = 0$

$(x - 9)^2 + (y - 15)^2 = 9$

8) $x^2 + y^2 - 14x - 12y + 21 = 0$

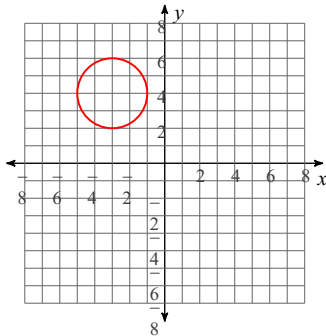
$(x - 7)^2 + (y - 6)^2 = 64$

10) $x^2 + y^2 + 6x - 72 = 0$

$(x + 3)^2 + y^2 = 81$

Write its circle equation in standard form, and sketch its graph.

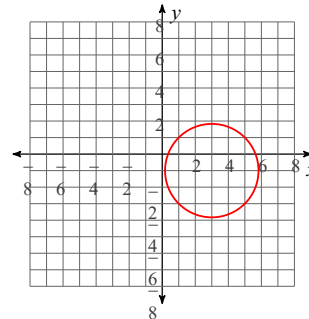
11) $x^2 + y^2 + 6x - 8y + 21 = 0$



Circle

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

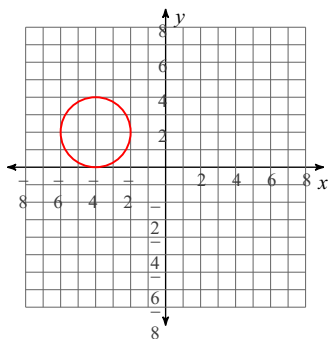
12) $x^2 + y^2 - 6x + 2y + 2 = 0$



Circle

$(x - 3)^2 + (y + 1)^2 = 8$

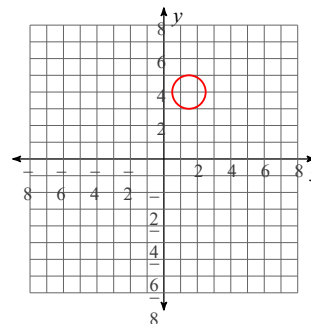
13) $x^2 + y^2 + 8x - 4y + 16 = 0$



Circle

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

14) $4x^2 + 4y^2 - 12x - 32y + 69 = 0$

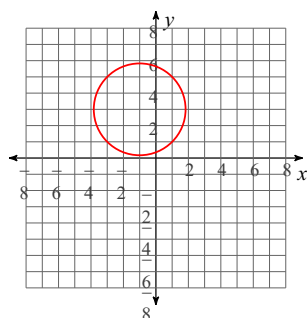


Circle

$(x - 3/2)^2 + (y - 4)^2 = 1$

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

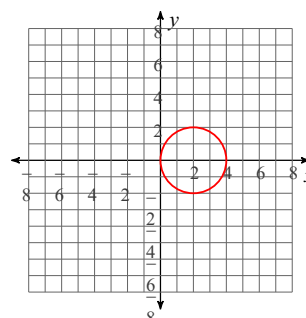
Circle



$(x + 1)^2 + (y - 3)^2 = 8$

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

Circle



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