

12) A circle has a radius of 6 and a center at $(4, -7)$. What is the equation for the circle?

$$(x-4)^2 + (y+7)^2 = 36$$

13) Center: $(-11, -8)$, Radius: 4

$$(x+11)^2 + (y+8)^2 = 16$$

14) Center: $(-6, -15)$, Radius: $\sqrt{5}$

$$(x+6)^2 + (y+15)^2 = 5$$

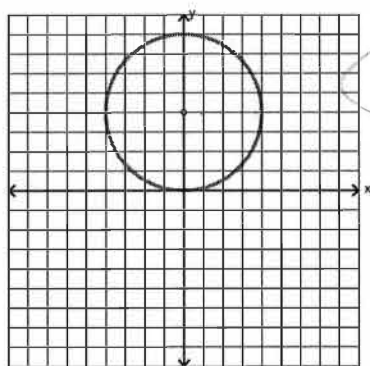
15) $(x-16)^2 + (y-6)^2 = 1$ translated 4 left, 2 up

$$(x-12)^2 + (y-8)^2 = 1$$

16) $(x+5)^2 + (y+7)^2 = 36$ translated 5 left, 4 down

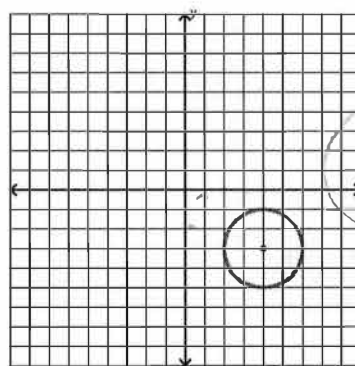
$$(x+10)^2 + (y+11)^2 = 36$$

17) Write the equation of the circle in standard form



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

18) Write the equation of the circle in standard form



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

p. 22-24 #59, 61, 63, 67, 69

(59) Center: $(2, -1)$; radius: 4

$$(x-2)^2 + (y+1)^2 = 16$$

(61) Center: $(-1, 2)$; point on $\odot$ (solution point): $(0, 0)$

$$r = \sqrt{(-1-0)^2 + (2-0)^2} = \sqrt{1+4} = \sqrt{5}$$

$$(x+1)^2 + (y-2)^2 = 5$$

(63) Endpoints of diameter: $(0, 0), (6, 8)$

$$\text{midpt} = \text{center} : \left(\frac{0+6}{2}, \frac{0+8}{2} \right) = (3, 4)$$

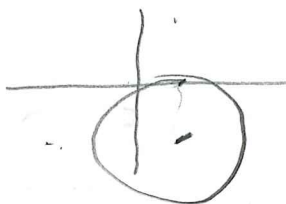
$$r = \sqrt{(3-0)^2 + (4-0)^2} = \sqrt{9+16} = 5$$

$$(x-3)^2 + (y-4)^2 = 25$$

(67) $(x-1)^2 + (y+3)^2 = 9$

center: $(1, -3)$

radius: 3



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

center: $(\frac{1}{2}, \frac{1}{2})$

radius: $\frac{3}{2}$

