Precalculus - Circles Key

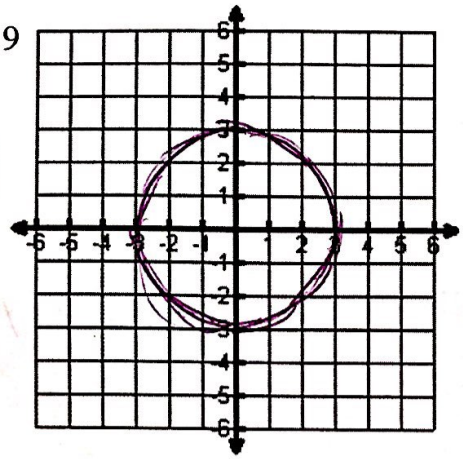
Name: _____ Per: _____ Date: _____

Graph the following circles. State the center and radius.

1. $x^2 + y^2 = 9$

Center: (0,0)

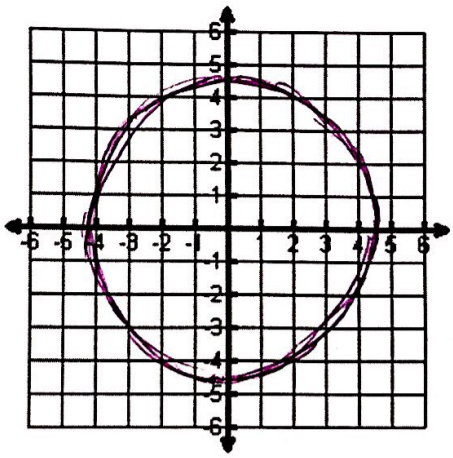
Radius: 3



2. $x^2 + y^2 = 20$

Center: (0,0)

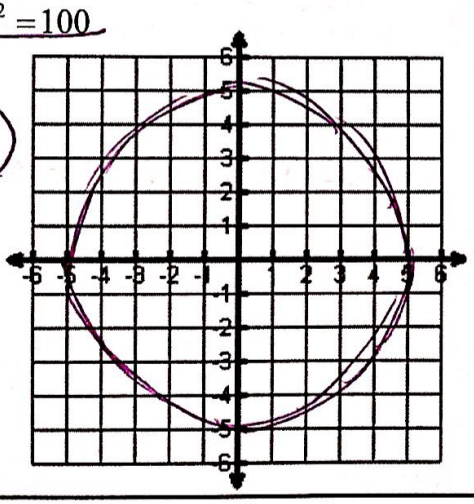
Radius: $2\sqrt{5}$ ≈ 4.5



3. $\frac{4x^2 + 4y^2 = 100}{4}$

Center: (0,0)

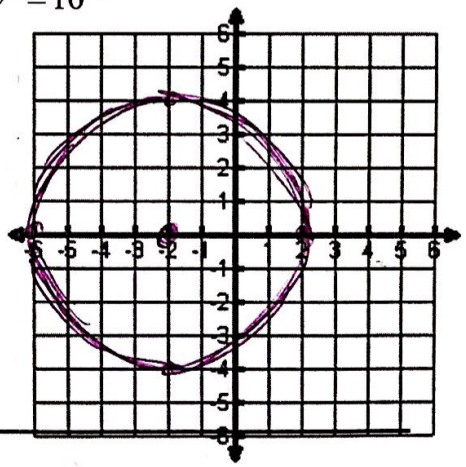
Radius: 5



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

Center: (-2,0)

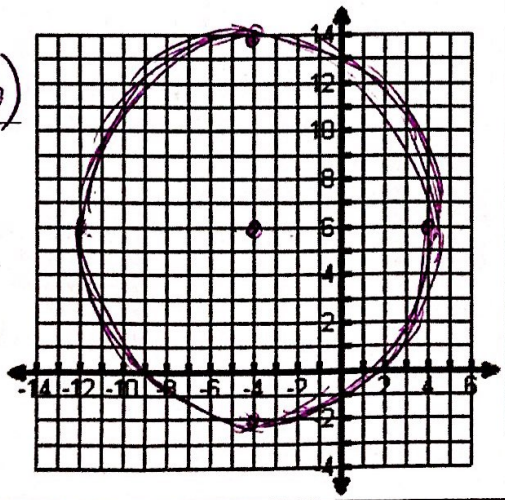
Radius: 4



5. $(x+4)^2 + (y-6)^2 = 64$

Center: (-4,6)

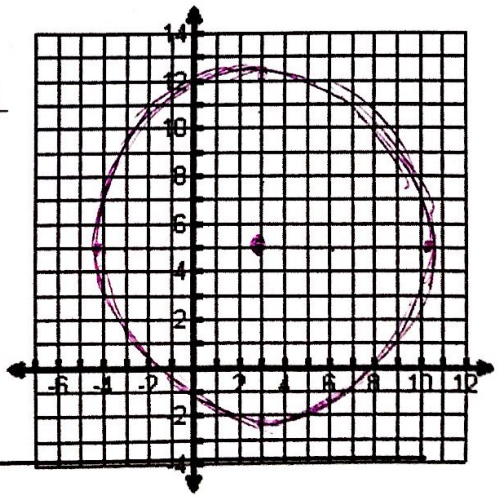
Radius: 8



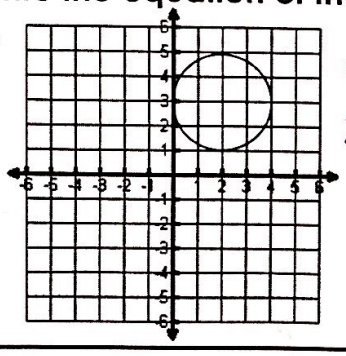
6. $(x-3)^2 + (y-5)^2 = 50$

Center: (3,5)

Radius: $5\sqrt{2}$ ≈ 7.1

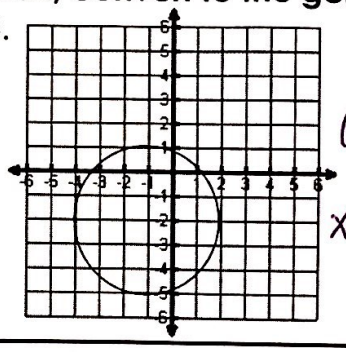


Write the equation of the circle in standard form. Then, convert to the general form.

7. 

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

$x^2+y^2-4x-6y+9=0$

8. 

$(x+1)^2+(y+2)^2=9$

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

Find the equation of the circle given the following information

9. Radius 2, center (-1,-4)

$(x+1)^2+(y+4)^2=4$

10. Center (2,0) Point (5,4)

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

11. Diam. endpts (-2,4) (4,2)

$(x-1)^2+(y-3)^2=10$

Write the standard equation for the circle. State the center and radius.

12. $x^2+2x+y^2-10y+10=0$

$(x+1)^2+(y-5)^2=16$

center $(-1,5)$

$r=4$

13. $x^2+y^2-4x+6y+9=0$

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

center $(2,-3)$

$r=2$

14. $x^2+y^2-10x-12y+40=0$

$(x-5)^2+(y-6)^2=21$

center $(5,6)$

$r=\sqrt{21}\approx 4.6$

15. $2x^2+2y^2-8x+4y=-2$

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

center $(2,-1)$

$r=2$

16. $7x^2+7y^2-28y+14=0$

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

center $(0,2)$ $r=\sqrt{2}\approx 1.4$

17. $3x^2+3y^2+18x+6y=0$

$(x+3)^2+(y+1)^2=10$

center $(-3,-1)$

$r=\sqrt{10}\approx 3.2$