Math 1010
Intermediate Algebra

11.2 The Circle and the Ellipse

Name _____ Score_____

In 1-6, Find the center and radius of each circle.

1. $x^2 + y^2 = 25$

2. $(x-2)^2 + (y+4)^2 = 121$

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

4. $x^2 + y^2 - 12y + 11 = 0$

5. $3x^2 + 3y^2 - 12x - 24y + 12 = 0$

6. $2x^2 + 2y^2 + 20x + 16y + 10 = 0$

In 7-12, Find the equation of a circle satistying the given conditions.

7. Center $(-4,3)$; radius 2

8. Center $(-8,-5)$; radius $\sqrt{5}$

9. Center $(5,0)$; radius 4

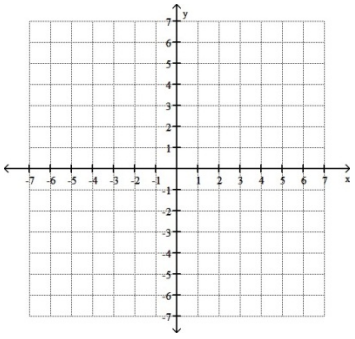
10. Center $(3,2)$; radius $\sqrt{14}$

11. Center $(-2,7)$; radius $\sqrt{21}$

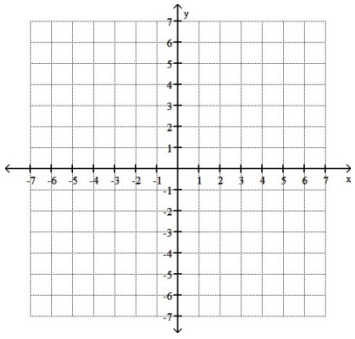
12. Center $(0,0)$; radius 7

In 13-18, Graph each circle.

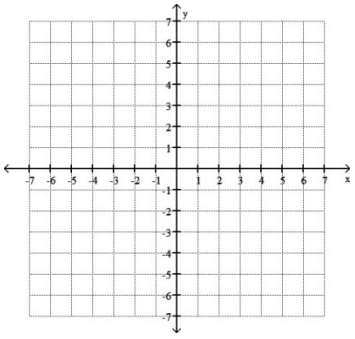
13. $(x+3)^2+(y+4)^2=16$



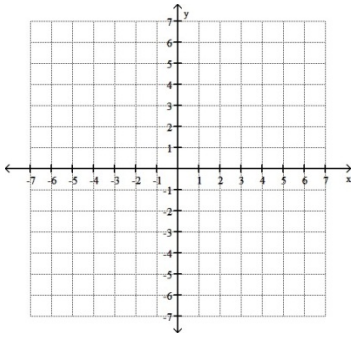
14. $(x-1)^2+(y+2)^2=4$



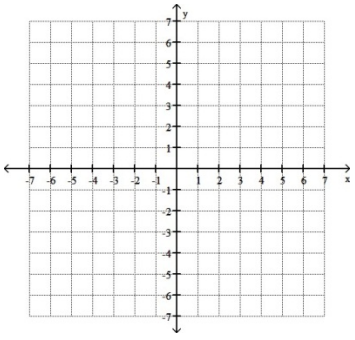
15. $(x-2)^2+(y-3)^2=15$



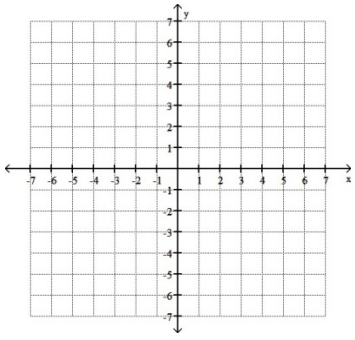
16. $x^2+y^2-2x+4y-4=0$



17. $x^2+y^2-6y-15=10$

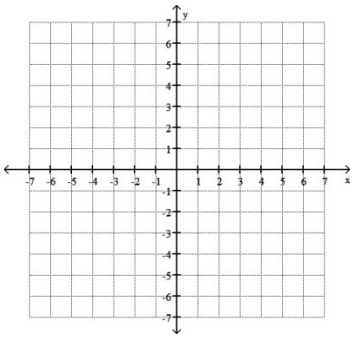


18. $x^2+y^2-4x+10y+20=0$

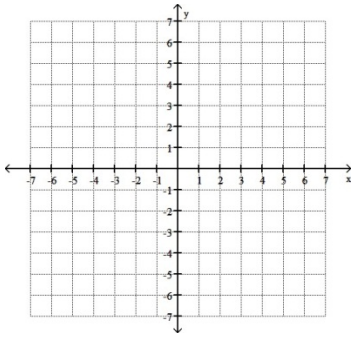


In 19-25, Graph each ellipse.

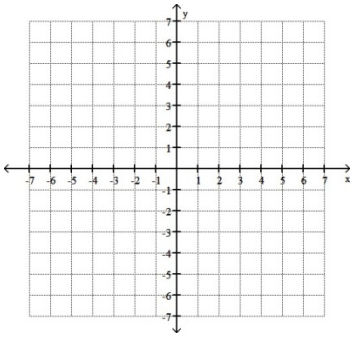
19. $49x^2 + 4y^2 = 196$



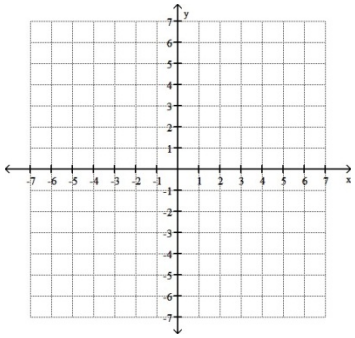
20. $\frac{(x+1)^2}{9} + \frac{(y-2)^2}{25} = 1$



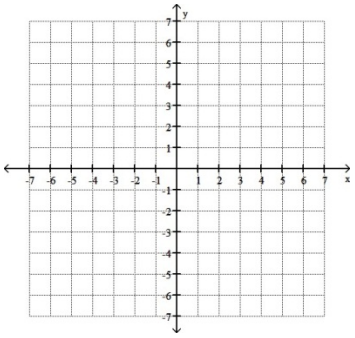
21. $\frac{y^2}{36} = 1 - \frac{x^2}{49}$



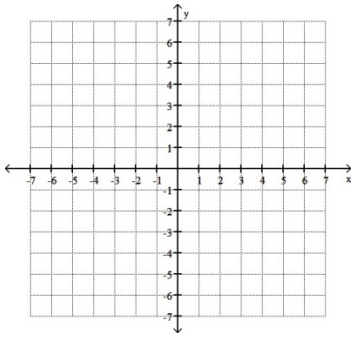
22. $25x^2 + 4y^2 = 100$



23. $(x-2)^2 + \frac{(y+3)^2}{25} = 1$



24. $\frac{x^2}{6} = 1 - \frac{y^2}{16}$



25. $\frac{(x-2)^2}{16} + \frac{(y-1)^2}{9} = 1$