

UNIT 6

MODELING  
GEOMETRY

1. Write the equation of the circle with center (3, -7) and radius 25.

1.

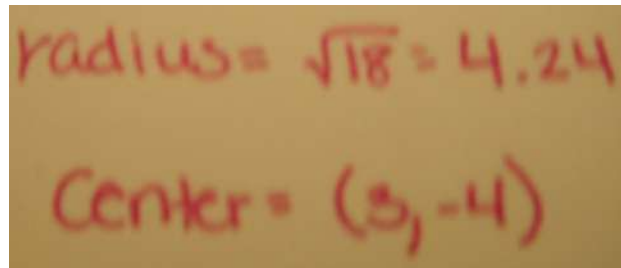
$$(x-3)^2 + (y+7)^2 = 625$$

1) take opposite signs of the center  
2) square your radius



3. What is the radius and center for the circle?

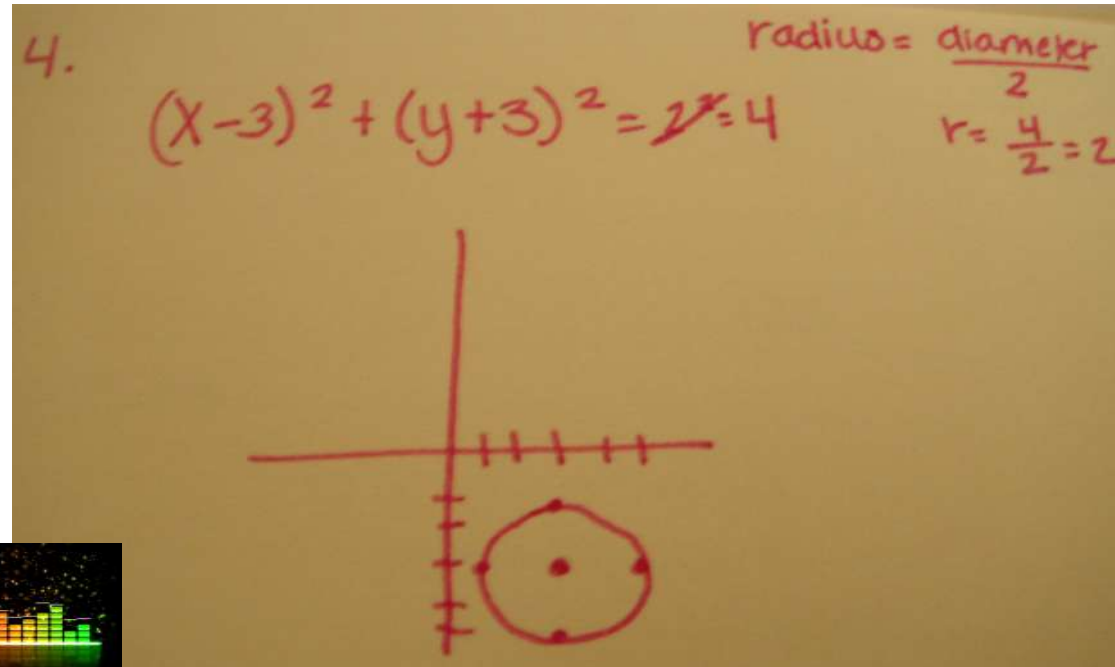
$$(x - 3)^2 + (y + 4)^2 = 18$$



radius =  $\sqrt{18} = 4.24$   
Center =  $(3, -4)$



4. Write the equation of the circle with the center (3, -3) and Diameter 4 cm.  
Then draw the circle.



5. What is the center of the circle given by the equation  $x^2 + y^2 - 10x - 11 = 0$ ?

A. (5, 0)

B. (0, 5)

C. (-5, 0)

D. (0, -5)



5.  $x^2 + y^2 - 10x - 11 = 0$   
 $+11 \quad +11$   
 $x^2 - 10x + y^2 = 11$   
 $(x^2 - 10x + 25) + y^2 = 11 + 25$   
 $\left(\frac{-10}{2}\right)^2 = (-5)^2 = 25$   
 $(x - 5)^2 + y^2 = 36$   
 $(5, 0)$  A.

$$8. (x+2)^2 + (y-3)^2 = 9$$

$$(x + \underline{4} + 4)(y - \underline{6} + 9) = 9 - 4 - 9$$

$$\sqrt{4} = 2 \cdot 2 = 4$$

$$\sqrt{9} = 3 \cdot 2 = 6$$

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

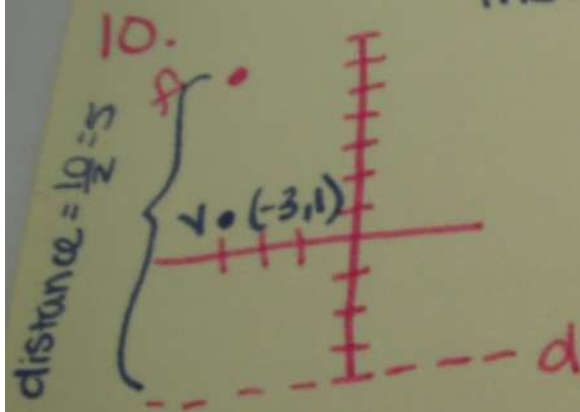


9.

A straight line can only  
intersect a circle 2 times

[C.]





Insert 6 from Point  $(a, b)$  & Solve

$$4(5)(y-1) = (x+3)^2 \text{ for } x.$$

$$20(b-1) = (x+3)^2$$

$$20(5) = (x+3)^2$$

$$\sqrt{100} = \sqrt{(x+3)^2}$$

$$10 = x+3$$

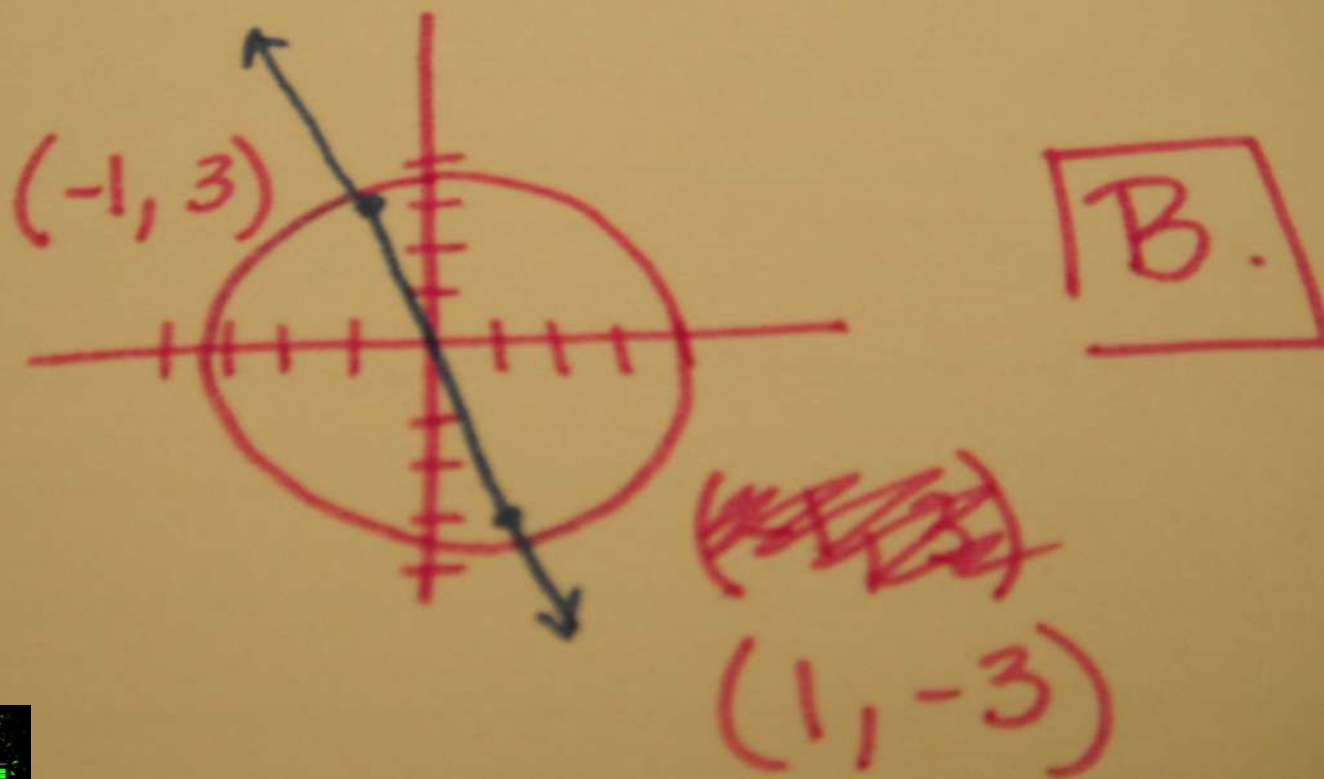
$$7 = x$$

**D.**





11.





Diagonals are congruent  
in a rectangle.

They are NOT perpendicular!

B

**13.** Which point is on a circle with a center of  $(3, -9)$  and a radius of 5?

A.  $(-6, 5)$

B.  $(-1, 6)$

C.  $(1, 6)$

D.  $(6, -5)$

