

9. Which figure could **NOT** represent the cross-section of a cylinder?

- A. A circle
- B. A semicircle
- C. An ellipse
- D. A rectangle

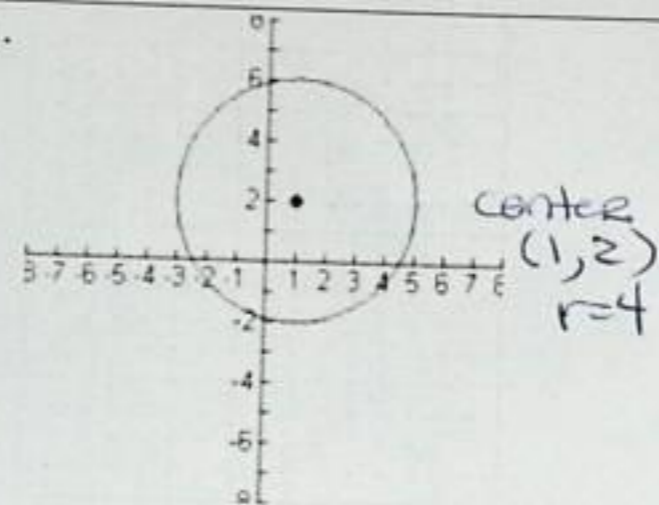
10. Find the center and radius of a circle with the Equation. $x^2 + y^2 + 6x - 8y + 16 = 0$

$$x^2 + 6x + \frac{9}{(3)^2} + y^2 - 8y + \frac{16}{(4)^2} = -16 + 16 + 9$$

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

Center: $(-3, 4)$; radius = 3

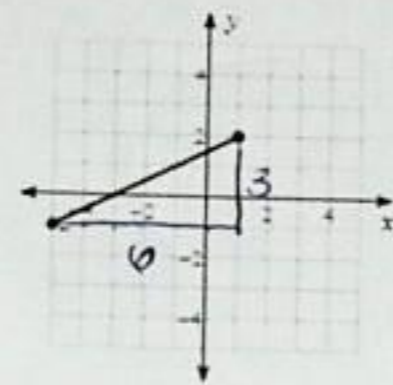
11.



What is the equation of the graph?

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

12.



Find the distance between each pair of points.

$$6^2 + 3^2 = c^2$$

$$36 + 9 = c^2$$

$$45 = c^2$$

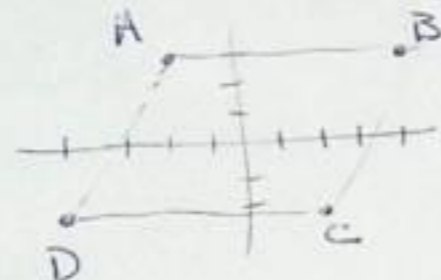
$$\sqrt{45} = c$$

$$3\sqrt{5}$$

or

$$6.71$$

13. Prove that $A(-2, 3)$, $B(4, 3)$, $C(2, -2)$ and $D(-4, -2)$ are the vertices of a **parallelogram**.



both pair opp. sides are parallel.

$$m_{AD} = \frac{-2-3}{-4+2} = \frac{-5}{-2} = \frac{5}{2} \checkmark$$

$$m_{BC} = \frac{-2-3}{2-4} = \frac{-5}{-2} = \frac{5}{2} \checkmark$$

$$m_{AB} = \frac{3-3}{4-(-2)} = 0 \checkmark$$

$$m_{CD} = \frac{-2+2}{-4-2} = 0 \checkmark$$

Since the slopes of both pairs of opposite sides are parallel, the quadrilateral is a parallelogram.