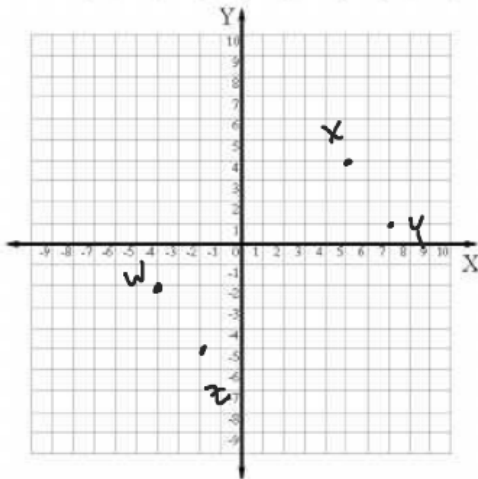


For problems 12-14 classify each quadrilateral as a parallelogram, rectangle, rhombus, square, kite, trapezoid, or isosceles trapezoid.

12. W (-4, -2), X (5, 4), Y (7, 1), Z (-2, -5)



Rectangle

$$WX = \frac{6}{9} = \frac{2}{3} \checkmark$$

$$XY = -\frac{3}{2} \checkmark \checkmark$$

$$YZ = \frac{-4}{-5} = \frac{4}{5} \checkmark$$

$$WZ = -\frac{3}{2} \checkmark \checkmark$$

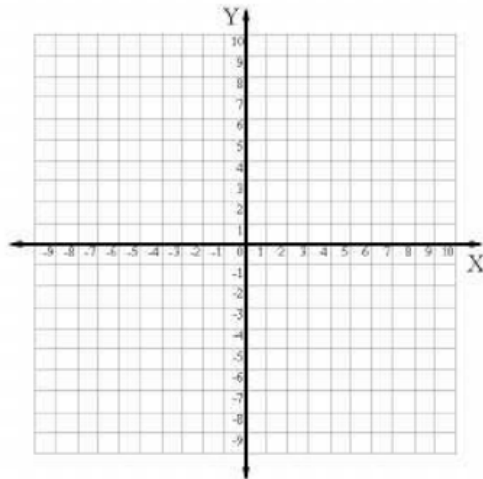
$$WX = \sqrt{(5+4)^2 + (4+2)^2}$$

$$= \sqrt{81 + 36} = \sqrt{117}$$

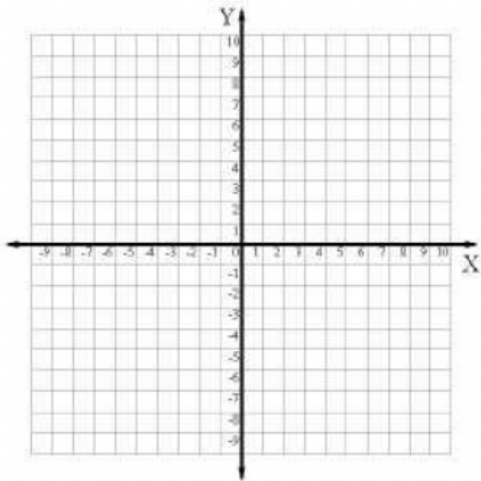
$$XY = \sqrt{(7-5)^2 + (1-4)^2}$$

$$= \sqrt{4 + 9} = \sqrt{13}$$

13. a. M (-3,2), A (-1, 6), T (1, 0), H (-1, -4)



14. a. F (-2, 3), I (3, 4), S (4, -1), H (-1, -2)



Write the equation of a circle with the given information.

15. Center $(-2, -6)$ and the diameter is 22

$$(x+2)^2 + (y+6)^2 = 11^2$$

$$(x+2)^2 + (y+6)^2 = 121$$

16. Center is at $(5, -3)$ and the point $(-1, 2)$ is on the circle.

$$(x-5)^2 + (y+3)^2 = 61$$

17. The endpoints of the diameter are $(1, -1)$ and $(3, 5)$.

$$\left(\frac{1+3}{2}, \frac{-1+5}{2}\right)$$

$$(2, 2)$$

$$r = \sqrt{(3-1)^2 + (5-(-1))^2}$$

$$= \sqrt{4 + 36} = \sqrt{40}$$

18. Sketch a graph of the circle with the given equation $(x+3)^2 + (y-2)^2 = 9$

$$(-3, 2) \quad r = 3$$

$$(x-h)^2 + (y-k)^2 = r^2$$

Center (h, k)

$r =$ Radius

$$(\sqrt{61})^2 = 61$$

$$r = \sqrt{(-1-5)^2 + (2+3)^2}$$

$$= \sqrt{(-6)^2 + (5)^2}$$

$$= \sqrt{36 + 25} = \sqrt{61}$$

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

