

Math 1215

Hw4

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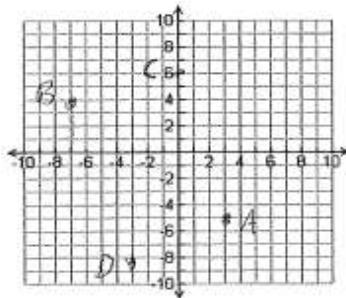
Plot:

1. Point A (3, -5)

2. Point B (-7, 4)

3. Point C (0, 6)

4. Points D (-3, -8)



Find the distance between the given points.

5. (2, 2) and (5, -2)

$$\begin{aligned} d &= \sqrt{(5-2)^2 + (-2-2)^2} \\ &= \sqrt{3^2 + (-4)^2} \\ &= \sqrt{9+16} = \sqrt{25} = 5 \end{aligned}$$

6. (0, 2) and (-2, 10)

$$\begin{aligned} d &= \sqrt{(-2-0)^2 + (10-2)^2} = \sqrt{4+8^2} = \sqrt{4+64} \\ &= \sqrt{68} \end{aligned}$$

Find the midpoint.

7. (3, -2) and (-5, 6)

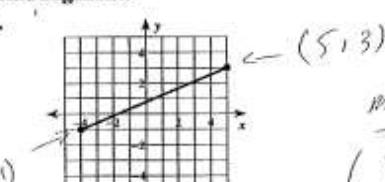
$$\begin{aligned} \left(\frac{3+(-5)}{2}, \frac{-2+6}{2} \right) \\ = (-1, 2) \end{aligned}$$

8. (-2, 7) and (5, -7)

$$\begin{aligned} \left(\frac{-2+5}{2}, \frac{7+(-7)}{2} \right) \\ = \left(\frac{3}{2}, 0 \right) \end{aligned}$$

Find the midpoint and the distance of the line segment.

$$\begin{aligned} d &= \sqrt{(5-(-4))^2 + (3-(-1))^2} \\ &= \sqrt{9^2 + 4^2} = \sqrt{81+16} = \sqrt{97} \\ &= \sqrt{97} \end{aligned}$$



$$\begin{aligned} \text{midpoint} \\ \left(\frac{5+(-4)}{2}, \frac{3+(-1)}{2} \right) \\ = \left(\frac{1}{2}, 1 \right) \end{aligned}$$

Write the equation for each circle if the coordinates of the center and length of the radius are given.

10. (5, 3), r = 3

$$(x-5)^2 + (y-3)^2 = 9$$

11. (-2, -4), r = 5

$$(x+2)^2 + (y+4)^2 = 25$$