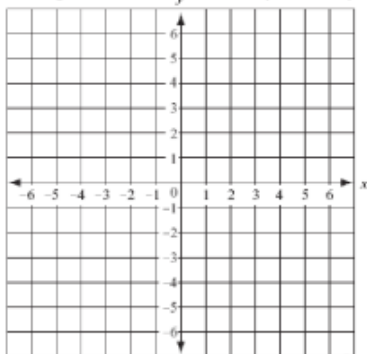


Section Formula $(x, y) = \left(\frac{ax_2 + bx_1}{a+b}, \frac{ay_2 + by_1}{a+b} \right)$ Name _____ Block _____

1. Line segment AB has endpoints $(-2, 4)$ and $(6, 0)$. What are the coordinate divides A to B in the ratio of 5:3? a:b

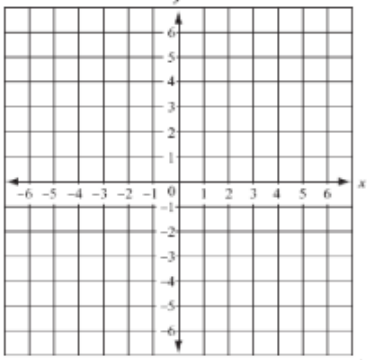


$$(x, y) = \left(\frac{5(6) + 3(-2)}{5+3}, \frac{5(0) + 3(4)}{5+3} \right)$$

$$(x, y) = \left(\frac{24}{8}, \frac{12}{8} \right)$$

$$(x, y) = \left(3, 1.5 \right)$$

2. Line segment AB has endpoints $(-6, 1)$ and $(1, -6)$. What coordinate divides B to A in the ratio of 4:3? a:b

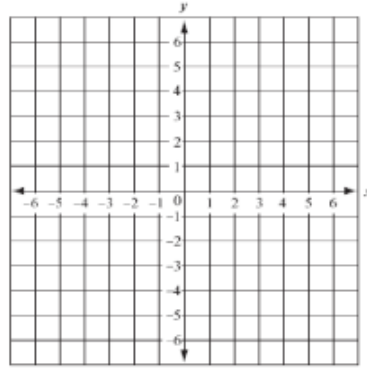


$$(x, y) = \left(\frac{4(-6) + 3(1)}{4+3}, \frac{4(1) + 3(-6)}{4+3} \right)$$

$$(x, y) = \left(\frac{-21}{7}, \frac{-14}{7} \right)$$

$$(x, y) = (-3, -2)$$

3. Line segment AB has endpoints $(2, 6)$ and $(-1, -3)$. What coordinate divides A to B in the ratio of 1:2? a:b

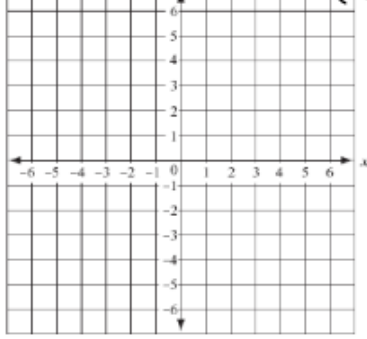


$$(x, y) = \left(\frac{1(-1) + 2(2)}{1+2}, \frac{1(-3) + 2(6)}{1+2} \right)$$

$$(x, y) = \left(\frac{3}{3}, \frac{9}{3} \right)$$

$$(x, y) = (1, 3)$$

4. Line segment AB has endpoints $(-5, 1)$ and $(5, 5)$. What coordinate divides B to A in the ratio of 2:2? a:b

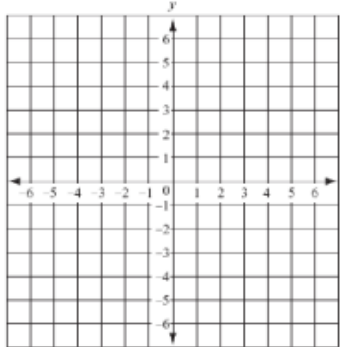


$$(x, y) = \left(\frac{2(-5) + 2(5)}{2+2}, \frac{2(1) + 2(5)}{2+2} \right)$$

$$(x, y) = \left(\frac{0}{4}, \frac{12}{4} \right)$$

$$(x, y) = (0, 3)$$

5. Line segment AB has endpoints $(7, 2)$ and $(4, 6)$. What coordinate divides A to B in the ratio of $2:3$? $a:b$

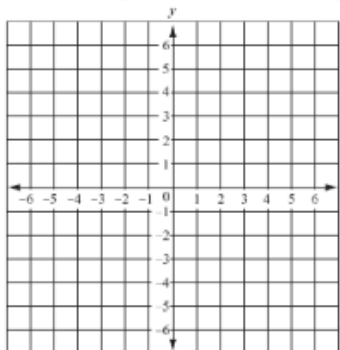


$$(X, Y) = \left(\frac{2(4) + 3(7)}{2+3}, \frac{2(6) + 3(2)}{2+3} \right)$$

$$(X, Y) = \left(\frac{29}{5}, \frac{8}{5} \right)$$

$$(X, Y) = (5.8, 1.6)$$

6. Line segment AB has endpoints $(-3, 8)$ and $(3, -4)$. What coordinate divides B to A in the ratio of $4:2$? $a:b$

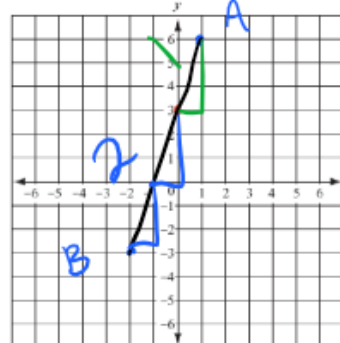


$$(X, Y) = \left(\frac{4(-3) + 2(3)}{4+2}, \frac{4(8) + 2(-4)}{4+2} \right)$$

$$(X, Y) = \left(\frac{-6}{6}, \frac{24}{6} \right)$$

$$(X, Y) = (-1, 4)$$

7. In line segment AB , point A is $(1, 6)$ and $(0, 3)$ is a coordinate that divides A to B in the ratio $1:2$. What is point B ? $a:b$ (x_2, y_2)



$$(0, 3) = \left(\frac{1(x_2) + 2(1)}{1+2}, \frac{1(y_2) + 2(6)}{1+2} \right)$$

$$\frac{x_2 + 2}{3} = 0$$

$$x_2 + 2 = 0$$

$$x_2 = -2$$

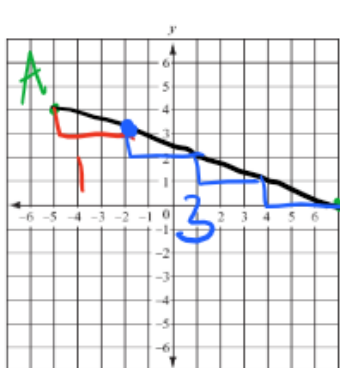
$$\frac{y_2 + 12}{3} = 3$$

$$y_2 + 12 = 9$$

$$y_2 = -3$$

Point B: $(-2, -3)$

8. In line segment AB , point A is $(-5, 4)$ and $(-2, 3)$ is a coordinate that divides B to A in the ratio $3:1$. What is point B ? $a:b$ (x_1, y_1)



$$(-2, 3) = \left(\frac{3(-5) + 1(x_1)}{3+1}, \frac{3(4) + 1(y_1)}{3+1} \right)$$

$$\frac{-15 + x_1}{4} = -2$$

$$-15 + x_1 = -8$$

$$x_1 = 7$$

$$\frac{12 + y_1}{4} = 3$$

$$12 + y_1 = 12$$

$$y_1 = 0$$

Point B: $(7, 0)$