

# Warm Up

Feb. 16 2012

#1) Find the midpoint between Q(18, -5) and R(-8, 7).

$$\begin{aligned} \text{Midpoint} &= \left[ \frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right] \\ &= \left[ \frac{-8 + 18}{2}, \frac{7 + (-5)}{2} \right] \\ &= \left[ \frac{10}{2}, \frac{2}{2} \right] \\ &= [5, 1] \end{aligned}$$



#2) The midpoint of FG is given by M(-3, 5) for the points F(-10, -2) and G(x, y). Find x and y.

$$\begin{aligned} \text{Mid} &= \left( \frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right) \\ (-3, 5) &= \left( \frac{x + (-10)}{2}, \frac{y + (-2)}{2} \right) \end{aligned}$$

Set the 'x' coordinates equal

$$-3 = \frac{(x-10)}{2}$$

Cross multiply and solve for x

$$1(x-10) = -3(2)$$

$$x-10 = -6$$

$$x-10 = -6^{+10}$$

$$\boxed{x = 4}$$

Set the 'y' coordinate equal

$$5 = \frac{(y-2)}{2}$$

$$1(y-2) = 5(2)$$

$$y-2 = 10$$

$$\boxed{y = 12}$$

$$(4, 12)$$

## Worksheet on MIDPOINT

1b, 2 ad cf, 3 cfi

4c, 5, # 7, # 8, # 9ac