

Mr. Hansen

Geom. HW due 12/11/2008

§8.1 #3-6

3. (a) $\frac{3}{x} = \frac{12}{16}$

$x = \frac{16 \cdot 3}{12} = (4)$

(b) $\frac{x}{18} = \frac{3}{7}$

$x = \frac{3 \cdot 18}{7} = (\frac{54}{7})$

(c) $\frac{7}{x-4} = \frac{3}{5}$

$3(x-4) = 35$

$3x - 12 = 35$

$3x = 47$

$x = (\frac{47}{3})$

4. (a) $\frac{1}{2} = \frac{3}{x} \Rightarrow x = (6)$ by inspection

(b) $\frac{1}{3} = \frac{4}{x} \Rightarrow x = (24)$ " "

(c) $\frac{a}{b} = \frac{5}{x}$

$ax = 5b$

$x = (\frac{5b}{a})$

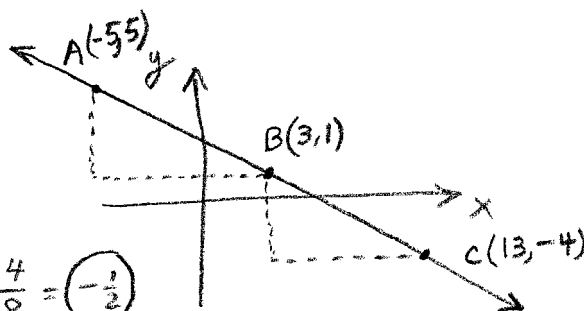
5. (a) $m = \frac{\Delta y}{\Delta x}$

$= \frac{1-5}{3-(-5)} = \frac{-4}{8} = (-\frac{1}{2})$

(b) $m = \frac{\Delta y}{\Delta x}$

$= \frac{-4-1}{13-3} = \frac{-5}{10} = (-\frac{1}{2})$

(c) (Yes), (a) should match (b) since
pts. A, B, C are collinear.



6.(a) $2x = 3y$ (place these so that cross-multiplication can be made to work out)

$$\frac{2}{3} = \frac{y}{x}$$

$$\therefore \frac{3}{2} = \frac{x}{y} \quad \text{Answer: } \frac{x}{y} = \left(\frac{3}{2}\right)$$

(b) (same technique)

$$6(y+3) = 2(x+9)$$

$$\frac{6}{2} = \frac{x+9}{y+3} \quad (\text{not helpful})$$

Start over: Distribute to get

$$6y + 18 = 2x + 18$$

$$6y = 2x$$

Now apply technique from (a).

$$\frac{6}{2} = \frac{x}{y}$$

$$\text{Answer: } \frac{x}{y} = \left(3\right) \text{ or } \left(3:1\right)$$

$$(c) \quad \frac{3}{x+5} = \frac{9}{y+15}$$

$$3(y+15) = 9(x+5)$$

$$3y + 45 = 9x + 45$$

$$3y = 9x$$

Apply technique from (a):

$$\frac{3}{9} = \frac{x}{y}$$

$$\text{Answer: } \frac{x}{y} = \left(\frac{1}{3}\right)$$