

**Integration: Algebra  
Using Proportions**

Sheet 8.4

Solve each proportion using cross products. *Show Work!*

1.  $\frac{3}{5} = \frac{x}{15}$

2.  $\frac{20-x}{x} = \frac{6}{4}$

3.  $\frac{x+1}{5} = \frac{x-1}{2}$

4.  $\frac{x}{x-3} = \frac{x+4}{x}$

5.  $\frac{x+1}{6} = \frac{x-1}{x}$

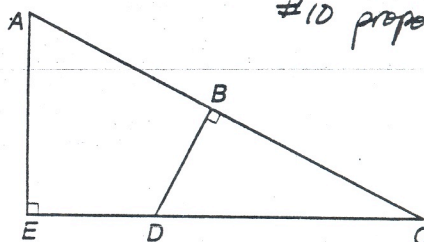
6.  $\frac{1}{x} = \frac{6}{x+9}$

7.  $\frac{x}{x+8} = \frac{2}{3}$

8.  $\frac{4}{12} = \frac{x+2}{2x+5}$

In the figure at the right,  $\frac{AC}{CD} = \frac{CE}{CB}$ . Use proportions to complete the table.

	AC	BC	AB	CE	ED	DC
9.	10	4		8		
10.	12			10		9

use  
this  
proportion  
for #9  
or #10

#10 proportion:

#9 - proportion:

Use a proportion to solve each problem.

11. The ratio of seniors to juniors in the Math Club is 2:3. If there are 21 juniors, how many seniors are in the club?

ratio in words:  $\frac{\text{seniors}}{\text{juniors}}$ 

proportion:

x = \_\_\_\_\_

12. A 15-foot building casts a 9-foot shadow. How tall is a building that casts a 30-foot shadow at the same time?

ratio in words:

proportion:

x = \_\_\_\_\_

13. A photo that is 3 inches wide and 5 inches high was enlarged so that it is 12 inches wide. How high is the enlargement?

ratio in words:

proportion:

x = \_\_\_\_\_

14. Philip has been eating 2 hamburgers every 5 days. At that rate, how many hamburgers will he eat in 30 days?

ratio in words:

proportion:

x = \_\_\_\_\_