

Name

2.7

Solve Proportions Using Cross Products

Alg I

I can solve proportions using cross products.

Cross Product: The product of the numerator of one ratio and the denominator of the other ratio,

Ch. 2 Quiz 9/21 or 9/22
Ch. 1/2 Test 9/23 or 9/26

Cross Products Property / Means-Extreme
When the cross products of a proportion are equal

Example 1:

$$1) \frac{4 \times 6}{a \times 6} = \frac{24}{30}$$
$$\boxed{a=5}$$

$$\frac{4}{a} = \frac{24}{30}$$
$$\frac{24a}{24} = \frac{120}{24}$$
$$\boxed{a=5}$$

Example 2:

$$2) \frac{3}{x} = \frac{2}{x-6}$$
$$2x = 3(x-6)$$
$$2x = 3x - 18$$
$$\begin{array}{r} -3x \\ -3x \end{array}$$
$$\hline -x = -18$$
$$\begin{array}{r} -1 \\ -1 \end{array}$$
$$\hline \boxed{x=18}$$

$$3) \frac{m}{5} = \frac{m-6}{4}$$
$$5(m-6) = 4m$$
$$5m - 30 = 4m$$
$$\begin{array}{r} -5m \\ -5m \end{array}$$
$$\hline -30 = -m$$
$$\begin{array}{r} -1 \\ -1 \end{array}$$
$$\hline \boxed{m=30}$$