Display Master: Key Idea: Determine the Most Efficient Strategy

- 1 method may be more efficient than the others when finding a missing value in a proportion.

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Display Master: Cars and Trucks A

Jacob has 4 toy cars for every 8 toy trucks. If he contin-ues at this rate, how many toy cars will he have when he has 32 toy trucks?

$$\frac{\text{Toy cars}}{\text{Toy trucks}} \qquad \frac{4}{8} = \frac{x}{32}$$

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Display Master: Cars and Trucks B

$$\frac{\text{Toy cars}}{\text{Toy trucks}} \qquad \frac{4}{8} = \frac{x}{32}$$

Times what?

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Display Master: Cars and Trucks C

$$\frac{\text{Toy cars}}{\text{Toy trucks}} \qquad \frac{4}{8} = \frac{x}{32}$$

$$\times 4$$

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Display Master: Cars and Trucks D

$$\frac{\text{Toy cars}}{\text{Toy trucks}} \qquad \frac{4 \cdot 4}{8 \cdot 4} = \frac{x}{32}$$

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Display Master: Cars and Trucks E

$$\frac{\text{Toy cars}}{\text{Toy trucks}} \quad \frac{4}{8} = \frac{16}{32}$$

Therefore, $x = 16$ toy cars

Display Master: Pizzas A

For a meeting that 27 people attended, Cindy bought 9 pizzas to serve everyone. For the next meeting, Cindy counted the people who would attend, but she lost the list. However, she remembers that she needs to buy only 6 pizzas. Using the same rate, how many people will attend the meeting if Cindy needs to buy only 6 pizzas?

$$\frac{\text{People}}{\text{Pizzas}} \qquad \frac{27}{9} = \frac{x}{6}$$

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Lesson 12: Determine the Most Efficient Strategy
for Finding a Missing Value **DM Display Master**

Display Master: Pizzas B

$$\frac{\text{People}}{\text{Pizzas}} \qquad \frac{27}{9}$$

What is the greatest common factor of 27 and 9?

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Display Master: Pizzas C

Units	Ratio 1	Unit rate	Ratio 2
$\dfrac{\text{People}}{\text{Pizzas}}$	$\dfrac{27 \div 9}{9 \div 9}$ =	$\dfrac{3}{1}$ =	$\rule{3cm}{0.4pt}$

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Display Master: Pizzas D

Units	Ratio 1	Unit rate	Ratio 2
$\dfrac{\text{People}}{\text{Pizzas}}$	$\dfrac{27 \div 9}{9 \div 9} =$	$\dfrac{3}{1} =$	$\dfrac{x}{6}$

Times what?

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Display Master: Pizzas E

Units	Ratio 1	Unit rate	Ratio 2
$\dfrac{\text{People}}{\text{Pizzas}}$	$\dfrac{27 \div 9}{9 \div 9}$ =	$\dfrac{3 \times 6}{1 \times 6}$ =	$\dfrac{x}{6}$

Display Master: Pizzas F

Units	Ratio 1	Unit rate	Ratio 2
$\dfrac{\text{People}}{\text{Pizzas}}$	$\dfrac{27}{9}$	$=\dfrac{3}{1}$	$=\dfrac{18}{6}$

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Display Master: Magazines A

Laura bought 3 magazines last week for a total of $5.25. This week, she spent $12.25 on magazines. How many magazines did she buy this week?

$$\frac{\text{Magazines}}{\text{Dollars}} \quad \frac{3}{5.25} = \frac{x}{12.25}$$

Display Master: Magazines B

$$\frac{\text{Magazines}}{\text{Dollars}} \quad \frac{3}{5.25} = \frac{x}{12.25} \quad 5.25x$$

$$5.25 \cdot x = 5.25x$$

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Display Master: Magazines C

$$\frac{\text{Magazines}}{\text{Dollars}} \quad \frac{36.75}{3} \underset{5.25}{\overset{x}{\bowtie}} \frac{5.25x}{12.25}$$

$$5.25 \cdot x = 5.25x$$

$$12.25 \cdot 3 = 36.75$$

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Display Master: Magazines D

$$\frac{\text{Magazines}}{\text{Dollars}} \quad \frac{3}{36.75} \underset{\times}{=} \frac{x}{12.25} \quad \frac{5.25x}{5.25}$$

$$\frac{36.75}{5.25} = \frac{5.25x}{5.25}$$

$$x = 7 \text{ magazines}$$

$$\frac{\text{Magazines}}{\text{Dollars}} \quad \frac{3}{5.25} = \frac{7}{12.25}$$