7th Grade
Lesson 72

- I can solve implied ratio problems.

There are two methods you can use for solving problems that involve rates/ratios.

1. Rate Method
2. Completing a Proportion

If 12 books weigh 20 pounds, how much would 30 books weigh?

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Rate Method

$\frac{12 \text{ books}}{20 \text{ pounds}}$

$\frac{3 \text{ books}}{5 \text{ pounds}}$ $\quad \frac{5 \text{ pounds}}{3 \text{ books}}$

$30 \text{ books} \cdot \frac{5 \text{ pounds}}{3 \text{ books}} = 50 \text{ lbs.}$

Completing a Proportion

$\frac{12 \text{ books}}{20 \text{ pounds}}$

$\frac{3 \text{ books}}{5 \text{ pounds}} = \frac{30 \text{ books}}{p}$

$3p = 5 \cdot 30$

$\frac{3p}{3} = \frac{150}{3}$ divide by 3

$p = 50$

50 pounds

If 5 pounds of grapes cost $1.20, how much would 12 pounds of grapes cost?

$\frac{\$1.20}{5 \text{ pounds}}$

$\frac{\$0.24}{1 \text{ lb.}}$ $\quad \frac{1 \text{ lb.}}{\$0.24}$

$12 \text{ pounds} \cdot \frac{\$0.24}{1 \text{ pound}} = \$2.88$

$\frac{5 \text{ lb.}}{\$1.20}$

$\frac{1 \text{ lb.}}{\$0.24} = \frac{12 \text{ lb.}}{m}$

$1m = (0.24)(12)$

$m = \$2.88$

$2.88

Mrs. C can tie 25 bows in 3 minutes. At that rate, how many bows can she tie in 1 hour?

$\frac{25 \text{ bows}}{3 \text{ min.}}$

$\frac{20}{60 \text{ mins.}} \cdot \frac{25 \text{ bows}}{3 \text{ min.}} = 500 \text{ bows}$

Six is to 15 as 9 is to what number?

$\frac{6}{15} = \frac{9}{n}$

$6n = 15 \cdot 9$

$\frac{6n}{6} = \frac{135}{6}$

$n = \frac{45}{2}$

Ten is to 30 as 9 is to what number?

Assignment

Problem Set 72

***A/B Optional:** #2-4, 6-7, 9-12, 15, 18, 22-24, 29-30