

The slide features a light beige background with a blue grid pattern in the top-left and bottom-right corners. A dark blue rectangular area is positioned in the upper-left, containing the text. A vertical red bar is on the left side of this dark blue area.

Algebra 1

Chapter 2
Section 2-7

Vocabulary

Proportion

Equation that states two ratios are equal

Cross Products

Multiplication products that result from multiplying a proportion.

*Cross products are equal.

Solving Proportions

$$\frac{5}{19} = \frac{x}{3}$$

$$(3)^{\frac{5}{19}} = (3)^{\frac{x}{3}}$$

$$\frac{15}{19} = x$$

Multiply by 3 on both sides to isolate x.

Proportions and Cross Products

$$\frac{a}{f} = \frac{g}{r}$$

$$ar = fg$$

$$\frac{x}{12} = \frac{3}{2}$$

$$2x = 36$$

$$x=18$$

2 times x equals 12 times 3.
Divide by two on both sides to isolate x.

Solving Proportions

$$\frac{9}{2x} = \frac{3}{8}$$

$$6x = 72$$

$$x = 12$$

9 times 8 equals 2x times 3
Divide by 6 to isolate x

Using Proportions

Awesome Sub Hut gives you five tomato slices on foot-long sub. They offer a party platter with eighteen four-inch subs (foot-long cut in three parts). A full tomato can be cut into six slices. How many tomatoes does Awesome Sub Hut need to make a party platter?

$$\frac{5}{12} = \frac{x}{72} \quad 12x=360$$

$$x = 30 \text{ slices}$$

$$30/6 = 5 \text{ full tomatoes}$$



Multi-Step Proportions

$$\frac{7-2r}{10} = \frac{1+r}{7}$$

$$49 - 14r = 10 + 10r$$

$$39 = 24r$$

$$\frac{39}{24} = r$$

$$\frac{13}{8} = r$$

$$7(7 - 2r) = 10(1 + r)$$

Isolate the variable term: Cancel variable term on the left (add 14r to both sides), cancel constant term on right (subtract 10 on both sides)

Divide by 24 to isolate the variable.

39 / 24 reduces by 3. Simplifies to 13 / 8.

Homework

Pages 127-128
11-37 odd