Lesson 1-11

Objective - To solve equations using the multiplication property of equality.

Multiplication Property of Equality

If $a = b$, then $a \cdot c = b \cdot c$.

or

If $\frac{x}{m} = n$, then $m \cdot \frac{x}{m} = n \cdot m$

or $x = mn$.

Solve.

1) $\frac{x}{5} = 4$

$5 \cdot \frac{x}{5} = 4 \cdot 5$

$x = 20$

2) $\frac{y}{3} = 14$

$3 \cdot \frac{y}{3} = 14 \cdot 3$

$y = 42$

3) $\frac{m}{5} = 11$

$5 \cdot \frac{m}{5} = 11 \cdot 5$

$m = 55$

4) $\frac{k}{5} = 12$

$5 \cdot \frac{k}{5} = 12 \cdot 5$

$k = 60$

Solve.

5) $\frac{x}{7} = 12$

$7 \cdot \frac{x}{7} = 12 \cdot 7$

$x = 84$

6) $\frac{y}{3} = 1.9$

$3 \cdot \frac{y}{3} = 1.9 \cdot 3$

$y = 5.7$

7) $\frac{m}{5} = \frac{2}{3}$

$5 \cdot \frac{m}{5} = \frac{2}{3} \cdot 5$

$m = \frac{10}{3} = 3\frac{1}{3}$

8) $\frac{k}{5} = \frac{3}{7}$

$5 \cdot \frac{k}{5} = \frac{3}{7} \cdot 5$

$k = \frac{15}{7} = 2\frac{1}{7}$

Translate the sentence into an equation and solve.

1) A number divided 11 equals three-fourths.

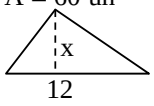
$\frac{n}{11} = \frac{3}{4}$

$11 \cdot \frac{n}{11} = \frac{3}{4} \cdot 11$

$n = \frac{33}{4} = 8\frac{1}{4}$

Write an equation that relates the known and unknown lengths to the area. Solve for the unknown. (Use $A = \frac{b \cdot h}{2}$)

2) $A = 60 \text{ un}^2$



$A = \frac{b \cdot h}{2}$

$60 = \frac{12 \cdot h}{2}$

$(2)60 = \frac{12 \cdot h}{2}(2)$

$\frac{120}{12} = \frac{12 \cdot h}{12}$

$10 = h$