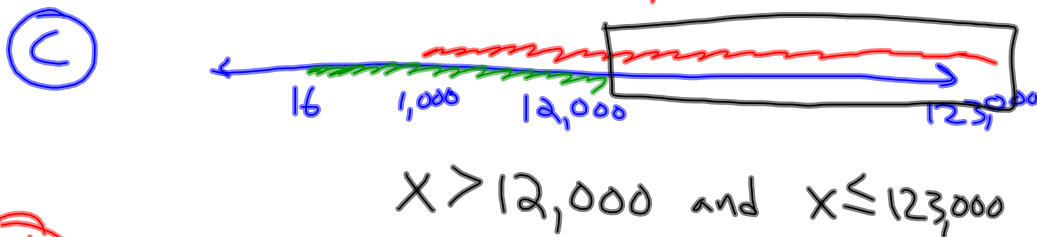


Homework Review - Story Problems WS

① $x \geq 64$ and $x \leq 23,000$
 $64 \leq x \leq 23,000$



② $x \geq 125$ and $x \leq 2000$
 $125 \leq x \leq 2000$

④

$67 - 45000$
 $64 - 23,000$

$x > 23,000$ and $x \leq 45,000$

Mr. Bregar weighs 180 pounds and can bench press 275. Maria's weight and strength are proportional to Mr. Bregar's. If Maria weighs 105 pounds, how much can she bench press?

$$105 \cdot \frac{275}{180} = \frac{x}{105} \cdot 105$$
$$= x$$

How to write a ratio:

compares one number to another

$$4 \text{ to } 7 \quad 4:7 \quad \frac{4}{7}$$

16 girls
14 boys

$$16 \text{ to } 14 \quad 16:14$$

Simplest terms ...

$$\frac{16}{14} = \frac{8}{7}$$

$$\begin{array}{r} 685.7 \\ 7 \overline{) 4800} \\ \underline{42} \\ 60 \\ \underline{56} \\ 40 \\ \underline{35} \\ 5 \end{array}$$

How to write and solve a proportion:

An equality stating
that two ratios are equal

What is a proportion?

$$600 \cdot \frac{8 \text{ boys}}{7 \text{ girls}} = \frac{685.7 \text{ boys}}{600 \text{ girls}} \cdot \cancel{600}$$

$$\begin{array}{r} 4800 \\ \hline 7 \end{array}$$

Solving Proportions using Cross Products:

$$\cancel{42} \cdot \frac{x}{\cancel{42}} = \frac{6}{35} \cdot 42$$

$$\frac{35x}{35} = \frac{\cancel{42} \cdot 6}{\cancel{35} 5}$$
$$x = \frac{36}{5}$$

It's a shortcut...

$$\frac{42.6}{35} = \frac{\cancel{7} \cdot 6 \cdot 6}{\cancel{7} \cdot 5}$$
$$= \frac{36}{5}$$

Writing (and solving) proportions:

Music A music downloading website reports that nearly 5 out of every 7 songs downloaded are classified as pop music. According to this information, predict how many of the next 500 songs downloaded will be pop songs. Round your answer to the nearest whole number.

5 out of 7 songs are pop
 500 songs downloaded
 X = how many are pop

$$500 \cdot \frac{5 \text{ pop}}{7 \text{ songs}} = \frac{x \text{ pop}}{500 \text{ songs}} \cdot 500$$

$$\frac{2500}{7} \quad \boxed{\sim 357}$$

~~$$\frac{5}{7} = \frac{500}{x}$$~~

$$\begin{array}{r} 357 \\ 7 \overline{) 2500} \\ \underline{21} \\ 40 \\ \underline{35} \\ 50 \end{array}$$

$$7x = 500 \cdot 5$$

$$\frac{7x}{7} = \frac{2500}{7}$$

$$x = 357. \dots$$

Homework:

p. 165 26-38 (even), 46, 50, 52a

p. 171 6 - 27 (every 3rd), 34, 36, 39, 40