

Ratio Classwork

Name: _____

1. Farmer Jones has 18 ducks and 24 chickens. He bought some new birds but kept the proportion of ducks to chickens the same. He now has 33 ducks. How many chickens does he have?

$$\frac{3 \text{ } \cancel{18} \text{ ducks} \times 11}{4 \text{ } \cancel{24} \text{ chzk}} = \frac{33 \text{ d}}{x}$$

$\times 11$

$$x = 44 \text{ chickens}$$

2. The sides of a triangle are 18 cm, 21 cm, 30 cm. A similar triangle will be drawn with a scale factor of $\frac{5}{6}$. What is the length of each side of the new triangle?

scale factor = $\frac{\text{new}}{\text{original}} = \frac{5}{6} \rightarrow$

$$\frac{5}{6} = \frac{x}{18}$$

$\times 3$

$$x = 15 \text{ cm}$$

$$\frac{5}{6} = \frac{x}{21}$$

$\times 3.5$

$$x = 17.5 \text{ cm}$$

$$\frac{5}{6} = \frac{x}{30}$$

$\times 5$

$$x = 25 \text{ cm}$$

3. Jillian had a large collection of pens. The ratio of gel pens to ballpoint pens is 4 : 7. She has 24 more ballpoint pens than gel pens. If she buys 16 more gel pens, what will be the new ratio?

gel $\frac{4}{7} \times 8 = 32$

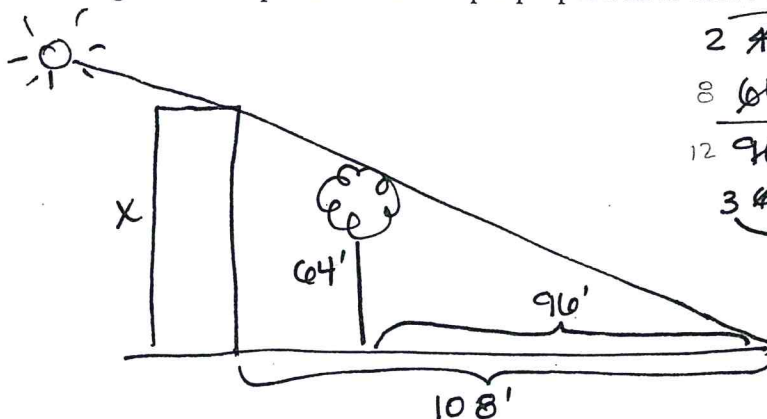
bp $7 \times 8 = 56$

Diff $3 \times 8 = 24$

16 more gel pens $\rightarrow 32 + 16 = 48$

New ratio = $\frac{48 \text{ gel}}{56 \text{ bp}} = \frac{6 \text{ gel}}{7 \text{ bp}}$

4. A building and a nearby tree both cast shadows onto the park grass. The building's shadow is 108' and the tree's shadow is 96'. The tree is 64' tall. How tall is the building? Draw a picture and set up a proportion to solve the problem.



$$\frac{2 \cancel{64}}{12 \cancel{96}} = \frac{x}{108}$$

$\times 36$

$$x = 72'$$