# Proportions in Story Problems!

7<sup>th</sup> Grade Math

Name: **Key**

or all of the following problems, write a proportion then solve. If you only give an answer without a proportion, you will not earn points.

1. Bart Simpson paid $54.44 for 4 skateboards. At that rate, what would 9 skateboards cost?

$$\frac{x}{9} = \frac{54.44}{4}$$

$$4x = 489.96$$

$$x = \$122.49$$

2. According to the label, there are 221 calories per Crispy Cream doughnut. How many calories are there in 7 doughnuts?

$$\frac{x}{7} = \frac{221}{1}$$

$$x = 1,547 \ cal.$$

3. A man paid $2.88 in tax for 4 shirts. At this rate, what would the tax be if he buys 11 shirts?

$$\frac{x}{11} = \frac{2.88}{4}$$

$$4x = 31.68$$

$$x = \$7.92$$

4. Chris drove 200 miles in 4 hours. At that rate, how long would it take Chris to drive 340 miles?

$$\frac{x}{340} = \frac{4}{200}$$

$$200x = 1,360$$

$$x = 6.8 \ hrs$$

5. Eight out of ten fish are trout. How many trout are there out of 40 fish?

$$\frac{x}{40} = \frac{8}{10}$$

$$10x = 320$$

$$x = 32 \ trout$$

6. There are 2 robins for every 5 birds. How many robins are there for 80 birds?

$$\frac{x}{80} = \frac{2}{5}$$

$$5x = 160$$

$$x = 32 \ robins$$

7. Two flowers cost $0.66. How much would 13 flowers cost?

$$\frac{x}{13} = \frac{\$.66}{2}$$

$$2x = 8.58$$

$$x = \$4.29$$

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# Proportion Word Problems: Fractions

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**1.** Jessica and Isaac decide to walk to Biggby after school. Biggby is ¾ of a mile from school. They walk at a pace of 1 ¼ miles per hour. How much time, in minutes, would it take for them to get to Biggby?

$$\frac{mi}{hr} \quad \frac{1\frac{1}{4}}{1} = \frac{\frac{3}{4}}{x} \quad \frac{mi}{hr}$$

$$1\frac{1}{4}x = \frac{3}{4}$$

$$\frac{4}{5} \cdot \frac{5}{4}x = \frac{3}{4} \cdot \frac{4}{5} \qquad \frac{hr}{min}\frac{1}{60} = \frac{\frac{3}{5}}{m}\frac{hr}{min}$$

$$x = \frac{3}{5}hr \qquad m = \overset{12}{\cancel{60}} \cdot \frac{3}{\cancel{5}}$$

$$m = 36 min$$

I will take them 36min to walk ¾mi to Biggby

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**2.** A doctor sees 3 patients in ¾ of an hour. How many patients can she see in a typical day 7 ½ hour day?

$$\frac{Pat.}{hr} \quad \frac{3}{\frac{3}{4}} = \frac{x}{7\frac{1}{2}} \quad \frac{Pat.}{hr}$$

$$\frac{3}{4}x = 3 \cdot 7\frac{1}{2}$$

$$\frac{3}{4}x = 3 \cdot \frac{15}{2}$$

$$\frac{4}{3} \cdot \frac{3}{4}x = \frac{\overset{15}{\cancel{45}}}{\cancel{12}} \cdot \frac{\overset{2}{\cancel{4}}}{\cancel{3}}$$

$$x = 30 \ pat.$$

The doctor will see 30 patients in 7 ½ hrs.

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**3.** It took JoAnn ⅜ of an hour to write ½ of her ELA paper. If Janie writes her paper at the same pace, how long will it take her to write ⅘ of her paper?

$$\frac{hr}{paper} \quad \frac{\frac{3}{8}}{\frac{1}{2}} = \frac{x}{\frac{4}{5}} \quad \frac{hr}{pap}$$

$$\frac{1}{2}x = \frac{3}{\cancel{8}}^{1} \cdot \frac{\cancel{4}}{5}$$

$$\frac{2}{1} \cdot \frac{1}{2}x = \frac{3}{\cancel{5}}^{} \cdot \frac{\cancel{10}^{21}}{\cancel{1}}$$

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

It will take Janie ⅗hr to write ⅘ of her paper

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**4.** A mixture of paint calls for ⅔ of a cup yellow paint and ⅚ of a cup blue paint. How many cups of yellow paint would you need for every cup of blue paint?

$$\frac{yel}{bl} \quad \frac{\frac{2}{3}}{\frac{5}{6}} = \frac{x}{1} \quad \frac{yel}{bl}$$

$$\frac{6}{5} \cdot \frac{5}{6}x = \frac{2}{\cancel{18}}^{} \cdot \frac{\cancel{6}}{5}^{2}$$

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

I will take ⅘c of yellow paint for every cup of blue paint.

**5.** Joe walks ¾ of a mile in ⅓ of an hour. His friend, Diego, walks for ¼ of an hour. Diego states that he walked x miles and walked at the same rate as Joe. How far did Diego walk?

Joe $\quad \dfrac{mi}{hr} \dfrac{\frac{3}{4}}{\frac{1}{3}} = \dfrac{x}{\frac{1}{4}} \dfrac{mi}{hr}$ Diego

$$\frac{1}{3}x = \frac{3}{4} \cdot \frac{1}{4}$$

$$\frac{3}{1} \cdot \frac{1}{3}x = \frac{3}{16} \cdot \frac{3}{1}$$

$$x = \frac{9}{16} mi$$

It will take $\frac{9}{16}$ mi for Diego to walk in $\frac{1}{4}$ hr.

**6.** TeShawn is painting a fence. After 10 minutes, or ⅙ of an hour, TeShawn has painted ⅕ of the fence. At this rate, how long will it take TeShawn to paint the entire fence?

$\dfrac{hr}{Fen.} \dfrac{\frac{1}{6}}{\frac{1}{5}} = \dfrac{x}{1} \dfrac{hr}{Fen.}$

$$\frac{5}{1} \cdot \frac{1}{5}x = \frac{1}{6} \cdot \frac{5}{1}$$

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

It will take $\frac{5}{6}$ hr (50 min) for TeShawn to paint the entire fence.

**7.** A copier prints 42 pages in ⅜ of a minute. How many pages can be printed in 1 minute?

$\dfrac{pg}{min} \dfrac{42}{\frac{3}{8}} = \dfrac{x}{1} \dfrac{pg}{min}$

$$\frac{8}{3} \cdot \frac{3}{8}x = \overset{14}{42} \cdot \frac{8}{\cancel{3}1}$$

$$x = 112$$

It will print 112 pages in 1 minute.

**8.** Jackie is making brownies for a party she is hosting and wants to make sure every guest gets one brownie. The recipe calls for ⅓ of a cup cocoa for every batch and each batch makes 20 brownies. If Jackie is having a party with 56 people attending, how many cups of cocoa will she use?

$\dfrac{C}{brwn} \dfrac{\frac{1}{3}}{20} = \dfrac{x}{56} \dfrac{C}{brwn}$

$$20x = \frac{1}{3} \cdot 56$$

$$\frac{1}{20} \cdot 20x = \overset{14}{\frac{56}{3}} \cdot \frac{1}{\cancel{20}5}$$

$$x = \frac{14}{15} C$$

Jackie will need $\frac{14}{15}$ C of cocoa for 56 brownies.