

**PRACTICE: Rates**

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Show your work... and don't forget to include units with your answer, if appropriate!**

1. Write a proportion (not the solution):

a) If a type of salami at the deli costs \$1.59 per 100 g, how much do you have to pay for 350 g?

$$\text{_____} = \text{_____}$$

b) As a janitor, Janine makes a cleaning solution by mixing 30 g of concentrated powdered cleanser into 2 L of water. How much powder will she need for 5 L of water?

$$\text{_____} = \text{_____}$$

c) An office has decided to track how much paper it uses in order to reduce waste. At the end of each month, the secretary records the total number of sheets used, and their weight. If paper weighs 4.9 kg for every 500 sheets, how much will 700 sheets weigh?

$$\text{_____} = \text{_____}$$

2. Find the unknown value in each of the following proportions. Give answers to the nearest tenth of a unit (to one decimal place).

a)

$$\frac{24 \text{ books}}{18 \text{ boxes}} = \frac{x \text{ books}}{12 \text{ boxes}}$$

\_\_\_\_\_

b)

$$\frac{188 \text{ km}}{2 \text{ hr}} = \frac{596 \text{ km}}{x \text{ hr}}$$

\_\_\_\_\_

c)

$$\frac{8 \text{ pizza slices}}{2 \text{ people}} = \frac{x \text{ pizza slices}}{23 \text{ people}}$$

\_\_\_\_\_

3. Jacob worked five hours and earned \$85.75. What is his hourly rate? \_\_\_\_\_

4. If a can of paint will cover 48 m<sup>2</sup> of wall space, how many full cans of paint will you need to purchase to paint 220 m<sup>2</sup>? \_\_\_\_\_

5. A stamping machine can produce 90 aluminum blanks in 45 minutes.  
a) How many blanks can the machine produce in 10 minutes? \_\_\_\_\_

b) How many blanks can the machine produce in one minute? \_\_\_\_\_

c) How many blanks can the machine produce in eight hours? \_\_\_\_\_

d) How long would the machine take to produce 360 blanks (in minutes)? \_\_\_\_\_

6. The scale on a map shows that 5 cm on the map represents 2.5 km of actual ground

a) Two towns are 15 km apart. How far apart are they on the map? \_\_\_\_\_

b) The distance that Derek bikes to work is shown as 9 cm on the map. How far does he actually bike to work? \_\_\_\_\_

7. At the beginning of December, Robin got a job working for Condor Parcel Delivery. On his first day he worked 6 hours and make \$93.

How much does Robin earn per hour? \_\_\_\_\_

a) In his first week on the job, Robin worked 25 hours. How much did he earn? \_\_\_\_\_

b) Robin estimates that he will need \$1200 to buy Christmas presents this year. How many hours will he have to work to make this amount (round up to the nearest hour)? \_\_\_\_\_

8. Stephanie can type 75 words per minute.  
a) To the nearest minute, how long will it take her to type an 800-word term paper? \_\_\_\_\_

b) To the nearest word, how much can she type in  $1\frac{1}{2}$  hours? \_\_\_\_\_

9. It takes Melvin nine hours to drive from Prince George to Vancouver (a distance of 810 km).

a) What is Melvin's average speed (km/h)? \_\_\_\_\_

b) At this rate, how long will it take Melvin to drive from Prince George to Regina (a distance of 1513 km; in hours rounded to two decimal places)? \_\_\_\_\_

c) At this rate, how far will Melvin get if he drives for 24 hours straight? \_\_\_\_\_