## Math 8: Ratios, Rates & Proportion Practice Test

Show all work. Round answers to 2 decimal places and include units when required.

1. Ms. Leslie's classroom has 16 desks, 30 chairs, 6 bulletin boards, 3 whiteboards, and one LCD projectors. Write ratios to express the following (simplify if you can!):  $\frac{1}{6} + \frac{3}{5} + \frac{6}{5} + \frac{3}{5} + \frac{1}{5} = \frac{5}{6}$ 

a) desks to chairs	16:30 -> 8:15
b) bulletin boards to whiteboards	6:3 → 2:1
c) chairs to item's listed in Ms. Leslie's room	30: 56 -> 15:28
d) chairs to desks to bulletin boards	30:16:6 → 15:8:3
e) LCD projector to whiteboards to bulletin boards	1:3:6
f) desks to item's listed in Ms. Leslie's room	16:56 -> 2:7

2. Write 3 ratios equivalent to 12:21:33. Show what you did!

3. Find the missing number in each pair of equivalent ratios.

a. 
$$60.5$$
 and  $\frac{12}{1}.1$   
 $\div 5$   
 $60 \div 5 = 12$   
b.  $4:16:20$  and  $16:64:80$   
 $\times 4$ 

- 4. In a bag of Halloween candies, the ratio of Kit Kat bars to Mars bars is 7:16. If there are 56 Kit Kat bars:
  - a) How many Mars bars are there?



b) How many chocolate bars total are there in the bag?

5. Ken can walk 40 dogs in 8 hours. How many dogs can he walk in 12 hours? Please show work to justify your answer.

$$\frac{40 \text{ dogs}}{8 \text{ hrs}} = \frac{n}{12 \text{ hrs}} \quad \frac{8n}{8} = \frac{480}{8} \quad n = [60 \text{ dogs}]$$

6. Ms. Dean took 10 hours to read a 260 page book. At this rate, how long will it take her to read a 400 page book?

7. A tap delivers water at a rate of 12 L/min. How long will it take to fill a pool with a volume of 4800 L?

$$\frac{12L}{1 \text{ min}} = \frac{4800 \text{ L}}{t} \frac{12t}{12} = \frac{4800}{12} t = \frac{400 \text{ min}}{12} = \frac{1600 \text{ min}}{600 \text{ min}} = \frac{16$$

- a) You score 84 points in 6 games. How many points do you score per game?

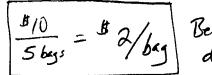
b) A skydiver falls 44 meters in 3 seconds. How far does the skydiver fall per second?

c) Marie walks 20 km in 3 hours. How many kilometres does she walk per hour?

d) A pump moves 160 litres in seven seconds. Find the unit rate.

$$\frac{160L}{7s} = 22.86L/s$$

- 9. Determine the best deal for each scenario. Please show work to justify your answer.
- a) One bag of pretzels costs three dollars. Five bags of pretzels costs \$10. Which has the lower unit price?



b) It costs \$3.99 for 25 fl. oz. of detergent or \$6.99 for 90 fl. oz. Which is a better buy?

$$\frac{$3.99}{2502} = $0.16/02$$

4 shirts for \$18.00 5 shirts for \$21 6 shirts for \$25.50 c) Which is the best deal?

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