

Writing Rates – Expert



Name: Key

Learning Goals:

1. I will be able to understand how to write a rate
2. I will understand how to write a unit rate
3. I will understand how to use rates and unit rates in word problems

Notes:

Terminology to Know:

1. Rate: comparison of things with two different units
 - a. Example: 5 laps/120 laps
2. Unit Rate: Comparison of things with different units where the seconds rate is reduced so that it is 1 unit ex) \$8/hr
 - a. Example: the seconds rate is reduced so that it is 1 unit ex) \$8/hr

Learning Goal #1: Rates

1. Express each sentence as a rate:
 - a. Steve likes to walk slowly. He usually walks 8 kilometres in 90 minutes.
8km/90min
 - b. Emily likes to swim fast. She can swim 7 laps of the pool in 1.5 minutes
7lps/1.5min
 - c. Gage has a very fast pitch. He can throw the ball 90 m in 4 seconds.
90m/4sec

Learning Goal #2: Unit Rates

1. Mary cycled 35 kilometres in 110 minutes. What was his speed in km/hr? Show your work.
 $35\text{km}/110\text{min} = 35\text{km}/1.8\text{hr} = 19.4\text{km}/1\text{hr}$
2. Mrs. Arcuri's dog ran 10 blocks in 3 minutes. Each block is 50 meters. What is his speed in meters/second? Show your work.
 $\frac{10\text{blks} \times 50}{3\text{min} \times 60} = \frac{500\text{meter}}{180\text{min}} \div 180 = \frac{3.3\text{m}}{1\text{min}}$
3. A container of yoghurt costs \$5.50 for 400 grams. How much does 100 grams cost? Show your work.
 $5.50\$/400\text{g} = \$1.38/100\text{g}$
4. A package of movies costs \$110.00 and in the package there are 7 movies. What is the cost per movie? Show your work.
 $110\$/7\text{mov} = 15.71\$/1\text{mov}$

Learning Goal #3: Comparing Rates

1. There are three different sizes to Summerland Sweets fruit candies. The smallest box costs \$3.00 and contains 11 candies. The medium size box costs \$6.00 and contains 16 candies. The largest box costs \$12.00 and contains 30 candies. Which is the best deal? Show your work.

$\frac{\$3.00}{11} = 0.27$	$\frac{\$6.00}{16} = 0.38$	$\frac{\$12.00}{30} = 0.40$
Sm	m	Lg

2. Mrs. Arcuri wants to find the best deal for her morning latte. The Beanery costs \$4.50 for 10 oz. The Good Omen café costs \$4.25 for 12 oz. And Tim Horton's costs \$3.00 for 9 oz. Which is the best deal? Show your work.

$\frac{\$4.50}{10\text{oz}} = 0.45$	$\frac{\$4.25}{12\text{oz}} = 0.35$	$\frac{\$3.00}{9\text{oz}} = 0.33$
Beanery	Good Omens	Tims

3. A 3 kg bag of grass seed will cover an area of 1000 m². How much seed is needed to cover a square part with side length of 50m?

$$\frac{3\text{kg}}{1000\text{m}^2} \times 2.5 = \frac{7\text{kg}}{2500\text{m}^2}$$

$$A = 50 \times 50 = 2500\text{m}^2$$

50m

4. Mrs. Arcuri drove to Merritt for a hockey tournament. She travelled 160 km in 2 hours. Mr. Arcuri then drove from Merritt to Kamloops. It was a 110 km trip and it took 1.5 hours. Who is the faster driver? Show your work.

$$\frac{160\text{km} \div 2}{2\text{hr} \div 2} = \frac{80\text{km}}{1\text{hr}}$$

Mrs.

$$\frac{110\text{km} \div 1.5}{1.5\text{hr} \div 1.5} = \frac{73\text{km}}{1\text{hr}}$$

Mr.

Mrs. Arcuri is fastest, Slow down, Mrs. Arcuri!