

Assignment

Write

Define the term unit rate in your own words.

Remember

Unit rates that involve money, like \$1.25 per pound, or speed, like 60 miles per hour, are very common. But not all unit rates are about money or speed.

Practice

1. Write a unit rate for each situation.

- 254 words typed in 4 minutes.
- 5 trays with 90 ice cubes.
- 4 hot dogs eaten in 45 seconds.
- 8 hours to drive 528 miles.

1a. $\frac{254 \text{ words}}{4 \text{ min}} = \frac{63.5 \text{ words}}{1 \text{ min}}$

1b. $\frac{90 \text{ ice cubes}}{5 \text{ trays}} = \frac{18 \text{ ice cubes}}{1 \text{ tray}}$

1c. $\frac{45 \text{ seconds}}{4 \text{ hot dogs}} = \frac{11 \frac{1}{4} \text{ seconds}}{1 \text{ hot dog}} = \frac{11.25 \text{ sec.}}{1 \text{ hot dog}}$

1d. $\frac{528 \text{ mi}}{8 \text{ hrs}} = \frac{66 \text{ mi}}{1 \text{ hr}}$

$$\begin{array}{r} 63.5 \\ 4 \overline{)254.0} \\ \underline{240} \\ 14 \\ \underline{12} \\ 20 \end{array}$$

2. Shawna needs to buy apples to bake pies for the fair. She needs 13 pounds of apples. At one market, she finds apples selling for \$1.89 a pound. At another market she finds a 15-pound bag of apples for \$26.99. Which market has the better deal?

$\frac{\$1.89}{1 \text{ lb}} = \frac{\$24.57}{13 \text{ lbs}}$

She should buy the \$1.89/1 lb. bags, because $\$24.57 < \26.99 .

3. Dylan needs to buy new contact lenses. His ophthalmologist sells 8-lens boxes in packs of 2, for \$52 and 10-lens boxes in packs of 4, for \$120. Which option is the better deal?

40 lenses

$\frac{\$120}{40 \text{ lenses}} = \frac{\$3}{1 \text{ lens}}$

16 lenses

$\frac{\$52}{16 \text{ lenses}} = \frac{\$3.25}{1 \text{ lens}}$

The \$120 box is cheaper per lens so is better

4. Pets R Us claims in their advertisement that they have the best price in town for ChowChow dog food. They sell 20-pound bags for \$16.95. Stuff4Pets also claims to have the best price in town for ChowChow dog food. They are selling 30-pound bags for \$24.95. Which store has a valid claim?

$\frac{\$16.95}{20 \text{ lbs}} = \frac{\$0.85}{1 \text{ lb}}$

$\frac{\$24.95}{30 \text{ lbs}} = \frac{\$0.83}{1 \text{ lb}}$

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Stuff 4 Pets because $\$0.83/1 \text{ lb} < \$0.85/1 \text{ lb}$.

5. During his last race, Bryce biked 43 kilometers in 2 hours. If he maintains that same speed, how far will he travel in 3 hours?

$\frac{43 \text{ km}}{2 \text{ hrs}} \times 3 \text{ hrs} = 64.5 \text{ km}$

He will travel 64.5 km in 3 hours.

Stretch

Describe how sales tax can be a rate. Determine the sales tax for your state or a nearby state and calculate the costs of different items after applying the sales tax.