Name: Key

Unit Rate Homework

Finding unit Rates

When the denominator of a rate is 1, we call the rate a **unit rate.** We usually use the key word **per** or the division symbol **/** to indicate a unit rate. For example:

If a student earns $8.50 per hour, it is the same as $8.50/hour, and means $8.50 for every 1 hour of work.

Find each unit rate. Round your answer to the nearest hundredth.

1. type 800 words in 12 minutes
   ≈67 words per minute $\frac{W}{m}$ $\frac{800 \div 12}{12 \div 12} = \frac{66.7}{1}$

2. 192 students in 4 buses
   48 in each bus $\frac{S}{b}$ $\frac{192 \div 4}{4 \div 4} = \frac{48}{1}$

3. 357 miles in 5 hours
   71.4 miles per hour $\frac{m}{h}$ $\frac{357 \div 5}{5 \div 5} = \frac{71.4}{1}$

4. 8 ducks for $23.60
   $2.95 per duck $\frac{\$}{duck}$ $\frac{\$23.60 \div 8}{8 \div 8} = \frac{2.95}{1}$

5. a 10-lb bag of cherries for $33.49
   $3.35 per lb $\frac{\$}{lb}$ $\frac{33.49 \div 10}{10 \div 10} = \frac{3.35}{1}$

6. 12 chickens lay 30 eggs
   ≈2.5 eggs per chicken $\frac{e}{c}$ $\frac{30 \div 12}{12 \div 12} = \frac{2.5}{1}$

7. Earn $134 in 8 hours
   $16.75 per hour $\frac{\$}{hr}$ $\frac{134 \div 8}{8 \div 8} = \frac{16.75}{1}$

8. 3 pizzas for $19.99
   $6.66 each $\frac{\$}{\#pizza} = \frac{\$19.99 \div 3}{3 \div 3} = \frac{6.66}{1}$

9. 3500 calories for 6 servings of pie
   ≈583 calories per serving $\frac{c}{s}$ $\frac{3500 \div 6}{6 \div 6} = \frac{583.3}{1}$

10. 351 chairs in 27 rows
    13 chairs in each row $\frac{c}{r}$ $\frac{351 \div 27}{27 \div 27} = \frac{13}{1}$

11. $37.29 for 2 pairs of jeans.
    $18.65 each $\frac{\$37.29 \div 2}{2 \div 2} = \frac{18.65}{1}$

12. $37.29 for 2 pairs of ducks
    $18.65 per duck $\frac{\$}{duck} = \frac{\$37.29 \div 2}{2 \div 2} = \frac{18.65}{1}$

13. 24 senior citizens in 12 RVs
    2 in each RV $\frac{Sc}{RV} = \frac{24 \div 12}{12 \div 12} = \frac{2}{1}$

14. 7 penguins for $188.88
    $26.98 each $\frac{\$}{\#penguins} = \frac{\$188.88 \div 7}{7 \div 7} = \frac{\$26.98}{1}$

15)

A museum has plaques showing information about dinosaurs. The Stegosaurus was estimated to have weighed 3.71×10^3 pounds. The Tyrannosaurus was estimated to have weighed 1.24×10^4 pounds. What is the difference, in pounds, of the two estimated weights?

$(1.24 \times 10^4) - (3.71 \times 10^3)$

$12400 - 3710 = 8690$

17)

Light travels at a rate of about 186,000 miles per second. What is 186,000 written in scientific notation?

186,000

1.86×10^5

16)

The bloodhound, a type of dog, has 4.0×10^9 scent receptors in its nose. A typical human has 1.2×10^7 scent receptors. How many times more scent receptors does a bloodhound have than a human? Round your answer to the nearest whole number.

$\frac{\text{bloodhound}}{\text{human}}$ $\frac{4 \times 10^9}{1.2 \times 10^7}$

$\frac{4}{1.2} \times 10^{9-7}$

$= 3.\overline{3} \times 10^2 = 3.333 = 333.3$ rounded $= 333$