

Unit Rates

Name: _____ Date: _____ Score: _____ / 18

Quick Review and Helpful Hints

A *unit rate* tells how much per *one* unit – per item, per hour, per mile. Find it by *dividing* the total by the number of units. Examples: dollars per pound, miles per hour, words per minute.

▷ **Example:** 12 apples cost \$6. Find the price per apple.

Work: Divide the cost by the number of apples: $6 \div 12 = 0.50$.

$$\text{rate} = \frac{\text{total}}{\text{units}}$$
 Amount per ONE unit.

★ **Answer:** \$0.50 per apple

◆ **Practice Problems**

Find each unit rate.

- | | |
|--|---|
| <p>1. \$6 for 12 apples _____</p> <p>2. 150 mi in 3 hr _____</p> <p>3. \$10 for 5 lb _____</p> <p>4. 120 words in 2 min _____</p> <p>5. \$20 for 4 tickets _____</p> <p>6. 100 mi in 4 hr _____</p> <p>7. \$9 for 3 lb _____</p> | <p>8. 60 pages in 2 hr _____</p> <p>9. \$8 for 16 oz _____</p> <p>10. 200 mi on 10 gal _____</p> <p>11. \$15 for 3 shirts _____</p> <p>12. 90 mi in 1.5 hr _____</p> <p>13. \$4 for 8 cookies _____</p> <p>14. 300 mi on 12 gal _____</p> |
|--|---|

◆ **Word Problems**

15. A car goes 240 mi in 4 hr. Find its speed. _____
16. 6 oranges cost \$3. Find the cost per orange. _____
17. You earn \$45 in 5 hr. Find your hourly rate. _____
18. A car travels 250 mi on 10 gal. Find the miles per gallon. _____



Answer Keys

- | | | |
|----------------|--------------|-----------------|
| 1. \$0.50 each | 7. \$3/lb | 13. \$0.50 each |
| 2. 50 mph | 8. 30/hr | 14. 25 mpg |
| 3. \$2/lb | 9. \$0.50/oz | 15. 60 mph |
| 4. 60 wpm | 10. 20 mpg | 16. \$0.50 |
| 5. \$5 each | 11. \$5 each | 17. \$9/hr |
| 6. 25 mph | 12. 60 mph | 18. 25 mpg |

Step-by-Step Explanations

1. Start by naming the process: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $6 \div 12 = \$0.50$ each. So the final answer is \$0.50 each.
2. A good way to think about this is: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $150 \div 3 = 50$ mph. So the final answer is 50 mph.
3. Step by step: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $10 \div 5 = \$2/\text{lb}$. So the final answer is \$2/lb.
4. Take it one move at a time: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $120 \div 2 = 60$ wpm. So the final answer is 60 wpm.
5. Start by naming the process: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $20 \div 4 = \$5$ each. So the final answer is \$5 each.
6. A good way to think about this is: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $100 \div 4 = 25$ mph. So the final answer is 25 mph.
7. Step by step: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $9 \div 3 = \$3/\text{lb}$. So the final answer is \$3/lb.
8. Take it one move at a time: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $60 \div 2 = 30$ pages/hr. So the final answer is 30/hr.
9. Start by naming the process: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $8 \div 16 = \$0.50/\text{oz}$. So the final answer is \$0.50/oz.
10. A good way to think about this is: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $200 \div 10 = 20$ mpg. So the final answer is 20 mpg.
11. Step by step: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $15 \div 3 = \$5$ each. So the final answer is \$5 each.
12. Take it one move at a time: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $90 \div 1.5 = 60$ mph. So the final answer is 60 mph.
13. Start by naming the process: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $4 \div 8 = \$0.50$ each. So the final answer is \$0.50 each.
14. A good way to think about this is: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $300 \div 12 = 25$ mpg. So the final answer is 25 mpg.
15. Step by step: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $240 \div 4 = 60$ mph. So the final answer is 60 mph.
16. Take it one move at a time: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $3 \div 6 = \$0.50$. So the final answer is \$0.50.
17. Start by naming the process: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $45 \div 5 = \$9/\text{hr}$. So the final answer is \$9/hr.
18. A good way to think about this is: A unit rate means the amount for one unit, so divide the total amount by the number of units. The setup/work is $250 \div 10 = 25$ mpg. So the final answer is 25 mpg.



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