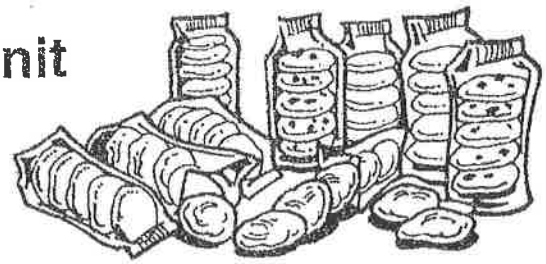
Rate Per Unit



A **rate** is a ratio that compares quantities of different units. A **unit rate** is a ratio that has 1 as the second term. Write the unit rate for each rate listed below.

A. 48 people in 6 vans	150 kilometers in 3 hours	45 cookies in 9 packages
B. 30 pounds in 6 weeks	1,250 words in 5 minutes	28 days in 4 weeks
C. 90 people in 15 cars	100 cards in 4 packages	78 centimeters in 3 seconds
D. 48 months in 4 years	144 markers in 6 boxes	143 players on 11 teams
E. 550 miles in 10 hours	720 minutes in 4 trips	498 milliliters in 2 glasses
F. 258 kilometers in 3 hours	300 people in 6 buses	600 flowers in 150 corsages
G. 160 pages in 4 hours	266 rides in 7 weeks	78 miles in 2 hours
H. 210 sit-ups in 6 days	294 minutes for 7 lessons	40 apples for 5 children
I. 960 miles in 8 hours	152 crayons in 8 packages	560 calories in 5 apples

Unit Rate and Rate of Change Practice

Multiple Choice
Identify the choice that best completes the statement or answers the question.

____ 1. Write a unit rate for the situation. Round to the nearest hundredth if necessary.

traveling 209 km in 5 h

a. 41.8 km/h b. 0.02 km/h c. 52.25 km/h d. 34.83 km/h

Short Answer

2. Write a unit rate for the situation. Round to the nearest hundredth if necessary.

Traveling 205 km in 6 h

3. The rate of change is constant in the table. Find the rate of change. Explain what the rate of change means for the situation.

Time (hours)	Distance (miles)
4	260
6	390
8	520
10	650

4. The rate of change is constant in the table. Find the rate of change. Explain what the rate of change means for the situation.

Time (days)	Cost (dollars)
4	228
6	342
8	456
10	570

5. The rate of change is constant in the table. Find the rate of change. Explain what the rate of change means for the situation.

Time (hours)	Distance (miles)
3	160
6	250
9	340
12	430

Solve each problem.

1) We paid $40 for 8 hamburgers, which is a rate of $___ per hamburger.

2) A pencil company used 60 grams of rubber to make 10 pencils, which is a rate of ___ grams per pencil.

3) An industrial machine is able to make 9 pens in 3 seconds. What is the rate made per second?

4) It took a pet store 10 weeks to sell 80 cats. What is the rate sold per week?

5) For every 4 miles Vanessa jogged, Cody jogged 3 miles. If Vanessa jogged 1 miles, how far would Cody have jogged?

6) A tailor used 2 meters of string to make 10 Halloween masks. He used ____ of a meter for each mask.

7) A machine worked for 5 hours and used 4 kilowatts of electricity. The machine used ____ of a kilowatt each hour it worked.

8) A candy company used 8 gallons of syrup to make 4 batches of candy. What is the rate of syrup per batch?

9) Oliver earned $12 for mowing 3 lawns. What is the rate earned per lawn mowed?

10) A baker used 4 cups of flour to make 5 batches of brownies. He used ____ of a cup of flour to make 1 batch of brownies.

11) A computer programmer worked for 10 hours and earned $70, which is a rate of $___ per hour.

12) A scientist used 2 gallons of liquid for every 3 hours he works. He uses ____ of a gallon each hour he works.

13) A fair owner made 18 dollars when a group of 3 people entered, which is a rate of ___ dollar per person.

14) Luke spent 8 days collecting cans and he managed to collect 6 pounds. He collected ____ of a pound each day.

15) A jogger travelled 50 kilometers in 5 days. What is the rate he travelled per day?

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

1-10	93	87	80	73	67	60	53	47	40	33
11-15	27	20	13	7	0					

Solve each problem.

1) An experienced carpenter could build a house in 4 days. How much would he have finished if he worked for 2 days?

2) A bouqet had 10 flowers and sold for $90, which is a rate of $___ per flower.

3) A candy company used 8 pints of chocolate to make 2 boxes of candy. What is the rate of pints of chocolate per box?

4) A warehouse placed 7 equal weight boxes on a scale. Total they weighed 4 pounds. Each box weighed ____ of a pound.

5) A movie theater went through 4 pounds of popcorn every 7 hours. They went through ____ of a pound every hour.

6) Henry spent 6 days collecting cans and he managed to collect 3 pounds. He collected ____ of a pound each day.

7) A lumber company had 4 bundles of wood (20 pieces total). What is the rate of pieces per bundle?

8) A printer took 5 minutes to print 15 pages. What is the rate of pages per minute?

9) We paid $6 for 3 hamburgers, which is a rate of $___ per hamburger.

10) A machine worked for 10 hours and used 6 kilowatts of electricity. The machine used ____ of a kilowatt each hour it worked.

11) A carpenter installed 15 sheets of drywall in 5 minutes. What is the rate per minute?

12) A gardener used 2 kilograms of fertilizer over the course of 3 weeks. How much fertilizer did they use each week?

13) A jogger travelled 15 kilometers in 3 days. What is the rate he travelled per day?

14) Chloe earned 5 points for every 7 books she read. So if she read only 1 book she would have earned ____ of a point.

15) A tailor used 3 meters of string to make 4 Halloween masks. He used ____ of a meter for each mask.

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____

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