

# Grade 6 · Unit Rates · Quiz

Common Core 6.RP.A.2, 6.RP.A.3b · mathovore.fr

Name: \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Score: \_\_\_\_\_

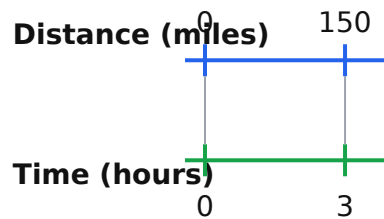
This quiz has 10 multiple-choice questions on unit rates, unit price, constant speed, and better buys. Pick one answer per question, then read the explanation to see the correct reasoning and the mistake behind each wrong choice.

**Grade 6 Common Core: 6.RP.A.2 · 6.RP.A.3b**

## Questions

### Question 1

A car travels 150 miles in 3 hours. What is the unit rate?



150 miles in 3 hours.

- A. 450 miles per hour
- B. 50 miles per hour
- C. 147 miles per hour
- D. 0.02 miles per hour

### Question 2

Six notebooks cost .00. What is the price of one notebook?

☐ **School store**  
6 notebooks  
.00

Price tag for 6 notebooks.

- A. .00
- B. .50

- C. .00
- D. .67

### Question 3

A 4-pack of juice costs .20 and a 6-pack costs .50. Which is the better buy?

- A. 4-pack, .30 per bottle
- B. 4-pack, because .20 is less
- C. 6-pack, .25 per bottle
- D. Both cost the same per bottle

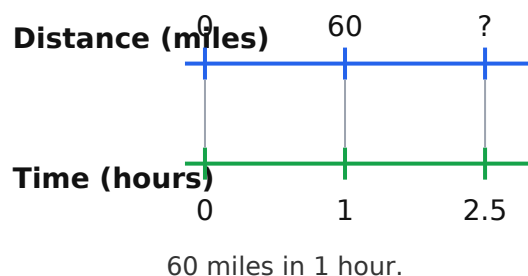
### Question 4

Which of these is a unit rate?

- A. for 2 pounds
- B. .50 for 3 pounds
- C. for 4 pounds
- D. .50 per pound

### Question 5

A train travels at a constant 60 miles per hour. How far does it go in 2.5 hours?



- A. 62.5 miles
- B. 24 miles
- C. 120 miles
- D. 150 miles

### Question 6

A pump moves 4 gallons per minute. How long does it take to move 30 gallons?

- A. 7.5 minutes
- B. 120 minutes
- C. 26 minutes
- D. 0.13 minutes

### Question 7

Jamal types 135 words in 3 minutes. How many words does he type per minute?

- A. 45 words per minute
- B. 405 words per minute
- C. 132 words per minute
- D. 0.02 words per minute

### Question 8

Which cereal has the lowest unit price?

| Size | Ounces | Price |
|------|--------|-------|
| A    | 12     | .40   |
| B    | 20     | .80   |
| C    | 32     | .40   |

Three cereal sizes.

- A. 12 oz for .40
- B. 32 oz for .40
- C. 20 oz for .80
- D. All three cost the same per ounce

### Question 9

Mei earns for 7 hours of work. At the same rate, how much does she earn in 12 hours?

- C. 8
- D. .25

### Question 10

Sofia drives 3 hours at 60 mph and then 2 hours at 45 mph. What is her average speed for the trip?

- A. 54 mph
- B. 52.5 mph
- C. 105 mph
- D. 270 mph

## Answer key

---

1. **B** – Divide 150 by 3 to get 50 miles per hour. Multiplying (450) or subtracting (147) does not give a rate per 1 hour.
2. **B** – Divide the total cost by the number of notebooks:  $9.00 \div 6 = 1.50$ . The value .67 comes from dividing in the wrong order ( $6 \div 9$ ).
3. **C** –  $5.20 \div 4 = 1.30$  and  $7.50 \div 6 = 1.25$ , so the 6-pack costs less per bottle. A lower total price does not mean a lower unit price.
4. **D** – A unit rate has 1 as its second quantity, so only .50 per pound qualifies. The others are equivalent rates but not unit rates.
5. **D** – Distance is rate times time:  $60 \times 2.5 = 150$  miles. Dividing 60 by 2.5 gives 24, which is the wrong operation.
6. **A** – Divide the total by the rate:  $30 \div 4 = 7.5$  minutes. Multiplying 30 by 4 gives 120, which confuses the operation.
7. **A** – Divide 135 by 3 to get 45. The answer 405 comes from multiplying, and 0.02 comes from dividing 3 by 135.
8. **C** – The unit prices are .20, .19, and .20 per ounce, so 20 oz for .80 is lowest. The largest box is not always the best buy.
9. **C** – The unit rate is  $63 \div 7 = \$9$  per hour, and  $9 \times 12 = \$108$ . Adding 12 to 63 gives , which does not use the rate.
10. **A** – Total distance is  $180 + 90 = 270$  miles in 5 hours, so  $270 \div 5 = 54$  mph. Averaging 60 and 45 (52.5) ignores the different times.

### Remember:

- A rate compares two quantities with different units; a unit rate has a second quantity of 1.
- Find a unit rate by dividing the first quantity by the second.
- A unit price is a unit rate that gives cost per item or per unit of measure.
- The better buy is the option with the lower unit price when the units match.
- At constant speed, distance equals rate times time.