

Grade 8 ratio and proportion test

NAME	DATE	SCORE / 8
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Answer each question. Show your work.

- 1 y is proportional to x. When x is 2, y is 20. What is the constant of proportionality?

- 2 A toy car goes 6 inches per second. 1 foot is 12 inches and 1 minute is 60 seconds. What is that rate, in feet per minute?

- 3 y is inversely proportional to x. When x is 10, y is 6. What is y when x is 3?

- 4 After a 30% discount, a jacket costs \$18.90. What was the price of the jacket before the discount, in dollars?

- 5 Noah puts \$1,500 in an account that earns 2% interest each year. The interest is added to the balance at the end of each year. What is the balance after 2 years, in dollars?

- 6 A town had 8,800 people. The number of people fell by 40% one year and grew by 50% the next year. How many people are in the town now?

- 7 A taxi charges \$3 plus \$3 per mile. x is the number of miles, and y is the cost in dollars. How are x and y related?

- ☐ Neither: no ratio or product stays the same
☐ Inversely proportional: $x \times y$ stays the same
☐ Directly proportional: $y \div x$ stays the same

- 8 A figure has an area of 28 square centimeters. Every length in the figure is multiplied by $\frac{3}{2}$ to make a new figure. What is the area of the new figure, in square centimeters?

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/ 2

Ans:

- 9

- x: 3, 5, 7

- $y: 6, 4, 2$

Is y inversely proportional to x , and why?

- ☐ Yes: y gets smaller as x gets bigger
- ☐ Yes: y goes down by 2 each time
- ☐ No: $x \times y$ is not always the same
- ☐ Yes: $x \times y$ is always 18

- 10

Cleo's walk follows $y = 2x$, where y is miles and x is hours. Leo walks at 4 miles per hour. Who walks faster?

- ☐ They walk at the same speed ☐ Cleo
☐ Leo

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1	10	2	30	3	20
4	27	5	1560.60	6	7920
7	Neither: no ratio or product stays the same	8	63	9	No: $x \times y$ is not always the same
10	Leo				