

Grade 8 - Proportional Relationships and Slope - Test Answer Key

Common Core 8.EE.B.5 · maths-pdf.fr/en/

Use this answer key to score the proportional relationships test out of 20 points. Each solution shows the full work and a scoring guide, so partial credit can be given fairly when a student shows correct steps but makes an arithmetic slip.

Grade 8 · Common Core State Standards: **8.EE.B.5**

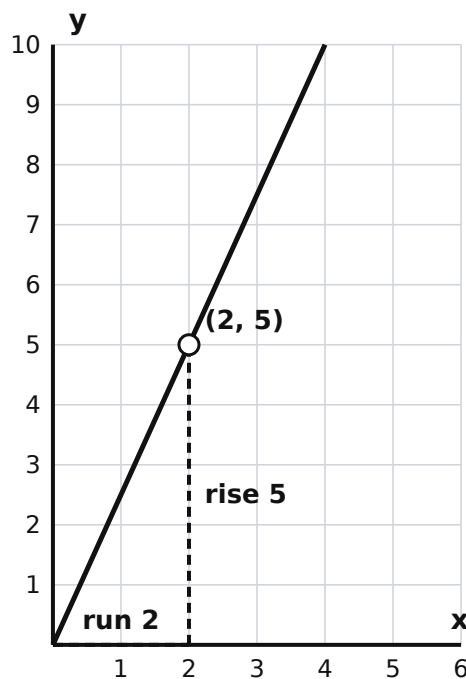
Question 1 - Table and rate [2 pts]

$$\frac{7}{2} = \frac{14}{4} = \frac{21}{6} = \frac{28}{8} = 3.5.$$

$$y = 3.5x$$

Scoring: 1 point for showing a constant ratio. 1 point for the equation.

Question 2 - Slope from a graph [3 pts]



Rise 5, run 2.

Slope = $\frac{5}{2}$, so $y = \frac{5}{2}x$.

$$y = \frac{5}{2} \cdot 10 = 25.$$

Scoring: 1 point for the slope, 1 point for the equation, 1 point for 25.

Question 3 - Compare two relationships [3 pts]

A: $\frac{7}{2} = 3.5$. B: 3.

A has the greater rate ($3.5 > 3$)

Scoring: 1 point for each unit rate. 1 point for the comparison.

Question 4 - Grocery price [2 pts]

$$9.40 \div 4 = 2.35, \text{ so } c = 2.35p.$$

$$2.35 \cdot 7 = 16.45.$$

\\$16.45

Scoring: 1 point for the equation. 1 point for \\$16.45.

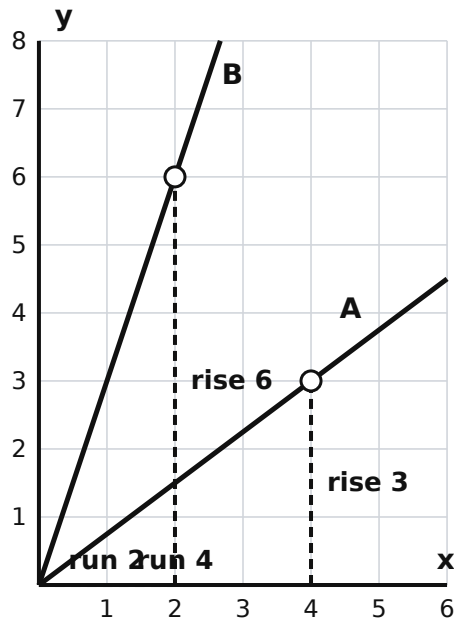
Question 5 - Is it proportional? [2 pts]

After 0 months the cost is \\$20, not \\$0, so the graph would not pass through the origin. The ratio changes: $\frac{30}{1} = 30$ but $\frac{40}{2} = 20$.

No

Scoring: 1 point for no. 1 point for a valid reason.

Question 6 - Two slopes [2 pts]



Slope triangles.

A: $\frac{3}{4}$. B: $\frac{6}{2} = 3$.

Scoring: 1 point for each slope.

Question 7 - Walking speeds [3 pts]

Ethan: $9 \div 3 = 3$ mph. Maya: 3.2 mph.

Maya, by 0.2 mph

Scoring: 1 point for Ethan's rate. 1 point for comparing. 1 point for 0.2 mph.

Question 8 - Find the point [3 pts]

$$a = \frac{2}{3} \cdot 9 = 6.$$

$$8 = \frac{2}{3}b, \text{ so } b = 12.$$

Scoring: 1 point for the setup. 1 point for $a = 6$. 1 point for $b = 12$.

Total

20 points