

Graphing Linear Equations: math test solutions, Grade 8 – download the PDF

Test solutions with the detailed point scale. Add up your points and spot what to review.

Suggested time: 45 minutes. Out of 20 points. Calculator allowed only when the problem says so.

1 Slope and intercept

/ 3 pts

a. $m = 6$ and $b = -8$. (1 pt)

b. $m = -\frac{1}{4}$ and $b = 3$. (1 pt)

c. It rises, because the slope **6** is positive. (1 pt)

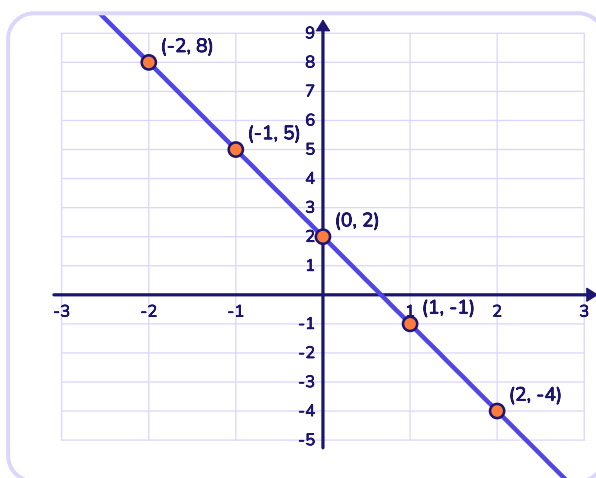
2 Table and graph

/ 4 pts

a. $x = -2: 8$. $x = -1: 5$. $x = 0: 2$. $x = 1: -1$. $x = 2: -4$. (2 pts)

x	-2	-1	0	1	2
y	8	5	2	-1	-4

b. Plot the five points and draw the line through them with arrowheads. (2 pts)



3 Equation from a graph

/ 4 pts

a. $m = \frac{1 - 3}{4 - 0} = -\frac{2}{4} = -\frac{1}{2}$. (2 pts)

b. $b = 3$, so $y = -\frac{1}{2}x + 3$. (1 pt)

c. $y = -\frac{1}{2}(10) + 3 = -2$. (1 pt)

4 Horizontal and vertical lines

/ 3 pts

a. $y = 6$. (1 pt)

b. $x = -3$. (1 pt)

c. The horizontal line has slope **0**; the slope of the vertical line is undefined. (1 pt)

5 Is it linear?

/ 3 pts

When x goes up by 2, y goes up by 6 each time, so the change is constant. (1 pt)

$$m = \frac{11 - 5}{3 - 1} = 3. \text{ (1 pt)}$$

From $(1, 5)$: $5 = 3(1) + b$, so $b = 2$. The equation is $y = 3x + 2$. Check with $x = 7$: **23**. (1 pt)

6 Bike rental

/ 3 pts

a. $C = 6h + 8$. (1 pt)

b. $C = 6(5) + 8 = 38$, so \$38. (1 pt)

c. $6h + 8 = 50$, so $6h = 42$ and $h = 7$ hours. (1 pt)



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