

Algebra 1 - Graphing Linear Equations - Test Answer Key

Common Core A-REI.D.10, F-IF.C.7a, A-CED.A.2 · maths-pdf.fr/en/

Use this key to grade the graphing linear equations test. Each solution shows the full work, and the scoring note explains how the points are awarded. The test totals 20 points. Give partial credit for correct steps, even when the final answer is wrong.

Algebra 1 · Common Core State Standards: **A-REI.D.10, F-IF.C.7a, A-CED.A.2**

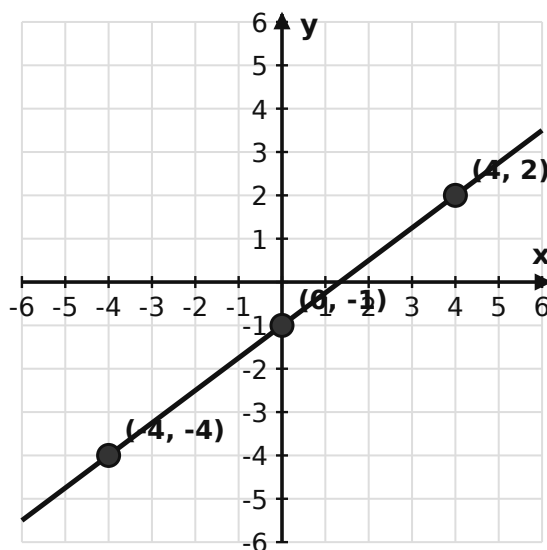
Question 1 - Slope and intercept [2 pts]

a) Slope -4 , y-intercept $(0,7)$.

b) Slope $\frac{3}{4}$, y-intercept $(0,-2)$.

Scoring: 1 point for each part (both values correct).

Question 2 - Graph a line [2 pts]



Graph of the line.

Plot the y-intercept $(0,-1)$. The slope is $\frac{3}{4}$: up 3, right 4 to $(4,2)$. Draw the line.

Scoring: 1 point for the correct y-intercept; 1 point for the correct slope and line.

Question 3 - Find intercepts [2 pts]

Let $y=0$: $5x=20$, so $x=4$.

Let $x=0$: $-2y=20$, so $y=-10$.

(4, 0) and (0, -10)

Scoring: 1 point for each intercept.

Question 4 - Rewrite an equation [2 pts]

Subtract $4x$: $2y=-4x+10$. Divide by 2.

$$y=-2x+5$$

Scoring: 1 point for isolating the y-term; 1 point for dividing every term.

Question 5 - Point-slope form [2 pts]

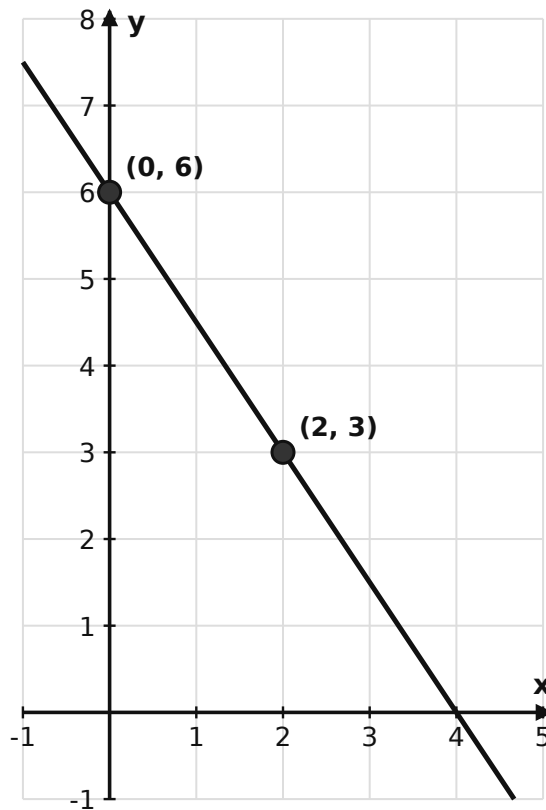
Point-slope: $y-5=-3(x-2)$.

Distribute: $y-5=-3x+6$, so $y=-3x+11$.

$$y-5=-3(x-2); y=-3x+11$$

Scoring: 1 point for each form.

Question 6 - Equation from a graph [2 pts]



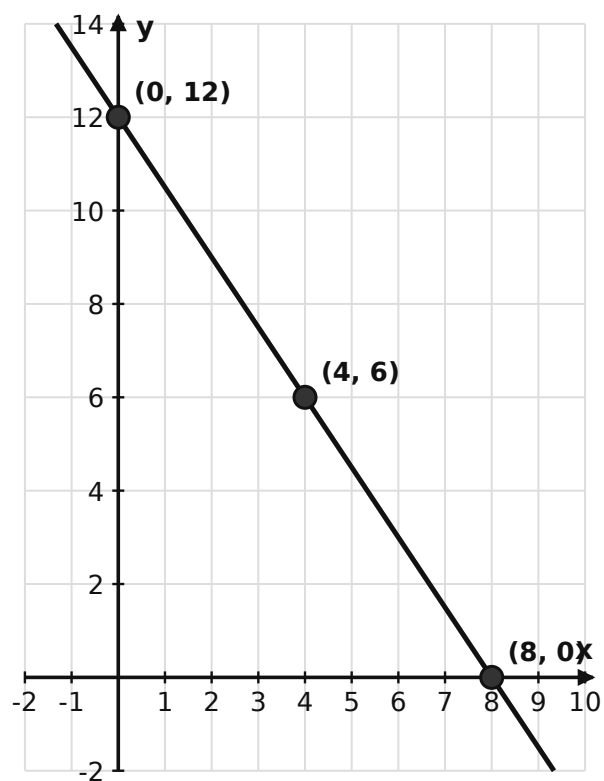
Slope $-\frac{3}{2}$, intercept 6.

The y-intercept is 6. From (0,6) to (2,3), the level changes by -3 in 2 hours.

$$y = -\frac{3}{2}x + 6$$

Scoring: 1 point for the slope; 1 point for the equation.

Question 7 - Data plan [3 pts]



The point (4, 6) is also on the line.

a) Slope $\frac{0-12}{8-0} = -1.5$, so $y = -1.5x + 12$.

b) The x-intercept (8,0) means all the data is used after 8 days.

c) $y = -1.5(4) + 12 = 6$ GB.

$y = -1.5x + 12$; **8 days; 6 GB**

Scoring: 1 point per part.

Question 8 - Points on a line [3 pts]

a) $2(6) - 3(0) = 12$ true. $2(0) - 3(4) = -12$ false. $2(-3) - 3(-6) = -6 + 18 = 12$ true. $2(5) - 3(1) = 7$ false.

b) $18 - 3y = 12$, so $-3y = -6$ and $y = 2$.

(6,0) **and** (-3,-6); $y = 2$

Scoring: part a, 1 point for testing all points and 1 point for the correct two; part b, 1 point.

Question 9 - Horizontal and vertical [2 pts]

Every point on the horizontal line has y-coordinate -3. Every point on the vertical line has x-coordinate 4.

$$y = -3 \text{ and } x = 4$$

Scoring: 1 point for each equation.

Total
20 points