

SPARK Hybrid Education Center

UNIT TEST - October - Linear Equations & Graphing

Upper Level

Name: _____
Total: 16 questions. Show all work where indicated.

Date: _____ Period: _____

Section 1: Multiple Choice

1. Slope of line through (2,3) and (6,11)? A) 1 B) 2 C) 3 D) 4
2. Slope-intercept form: A) $ax+by=c$ B) $y=mx+b$ C) $y-y_1=m(x-x_1)$ D) $y=ax^2+bx+c$
3. y-intercept of $y=3x-7$? A) 3 B) -3 C) 7 D) -7
4. Which equation has slope -2? A) $y=2x+1$ B) $y=-2x+5$ C) $y=x-2$ D) $2y=x+4$
5. Line through (0,4) with slope $\frac{1}{2}$: A) $y=2x+4$ B) $y=x/2+4$ C) $y=x/2-4$ D) $y=4x+2$
6. Slope of a horizontal line: A) undefined B) 1 C) -1 D) 0

Section 2: Matching

7. ____ y-intercept A) rise/run
8. ____ slope B) where line crosses y-axis
9. ____ x-intercept C) lines that never meet
10. ____ parallel lines D) where line crosses x-axis
11. ____ undefined slope E) vertical line

Section 3: Show Your Work

12. Graph $y = 2x - 3$. Create a table of values for $x = -2, -1, 0, 1, 2$. Show your work.
13. Write the equation of a line with slope 3 that passes through (0, -5).
14. Find the slope of the line through (-1, 4) and (3, 12). Show all steps.

Section 4: Word Problems

15. A taxi charges \$2 flat fee + \$1.50/mile. Write as $y=mx+b$. What is cost for 8 miles?
16. A gym membership costs \$30/month. After joining (month 0), total cost after t months: write the equation and find cost after 1 year.

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Section 1: Multiple Choice

1. B) 2
2. B) $y=mx+b$
3. D) -7
4. B) $y=-2x+5$
5. B) $y=x/2+4$
6. D) 0

Section 2: Matching

7. B
8. A
9. D
10. C
11. E

Section 3: Show Your Work

12. Table: $(-2,-7), (-1,-5), (0,-3), (1,-1), (2,1)$
13. $y = 3x - 5$
14. slope = $(12-4)/(3-(-1)) = 8/4 = 2$

Section 4: Word Problems

15. $y=1.5x+2$; \$14.00
16. $y=30t$; \$360 after 12 months