

Algebra 1

Practice Chapter 4 Test

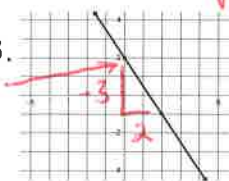
NAME _____

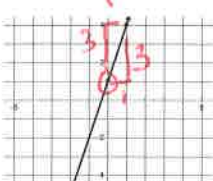
Write the letter for the best answer in the blank at the right. (3 Points)

For #1-4, find the equation in slope-intercept form that describes each line.

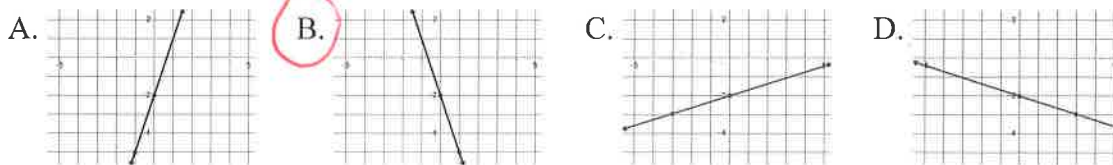
1. $m = -4$ and y -intercept $= -5$ $y = mx + b$
- A. $y = -5x - 4$ B. $y = -5x + 4$ **C. $y = -4x - 5$** D. $y = -4x + 5$

2. $m =$ No Slope (undefined) and through the point $(-1, 7)$
- A. $y = -1$ B. $y = 7$ **C. $x = -1$** D. $x = 7$

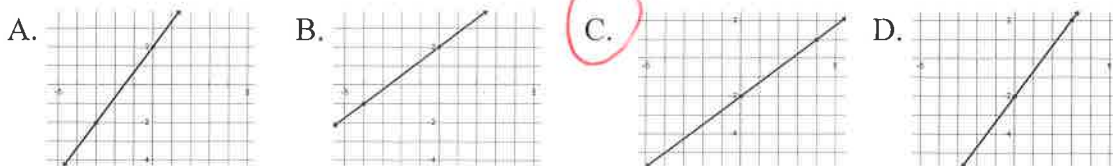
3. means vertical line so
- 
- A. $y = \frac{2}{3}x + 2$ B. $y = \frac{2}{3}x - 2$
- C. $y = -\frac{3}{2}x + 2$** D. $y = -\frac{3}{2}x - 2$

4. 3/1
- 
- A. $y = 3x + 1$** B. $y = \frac{1}{3}x + 1$
- C. $y = -3x + 1$ D. $y = -\frac{1}{3}x + 1$

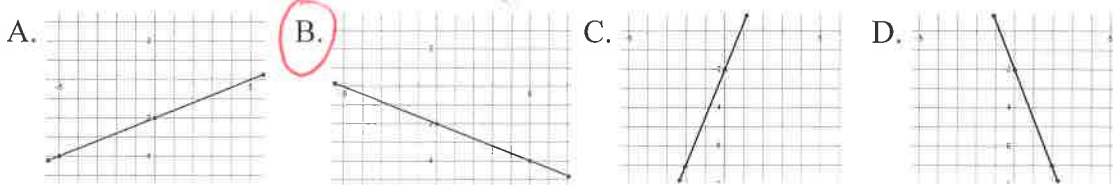
5. Which graph is the equation $y = -3x - 2$.



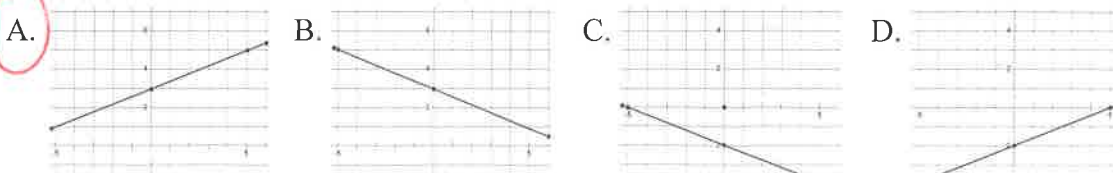
6. Which graph is the equation $4y = 3x - 8$.



7. Which graph is the equation $2x + 5y = -10$.



8. Which graph is the equation $4x - 10y = -30$.



1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Points(24) _____

For #9-18, find the equation in SLOPE-INTERCEPT form that describes each line.

9. A line through (3, -4) and slope = 5

A. $y = 5x - 11$

B. $y = 5x - 19$

C. $y = 5x + 11$

D. $y = 5x + 19$

$y + 4 = 5(x - 3)$
 $y + 4 = 5x - 15$
 -4

10. A line through (-2, 4) and slope = -3

A. $y = -3x - 2$

B. $y = -3x + 2$

C. $y = -3x - 10$

D. $y = -3x + 10$

$y - 4 = -3(x + 2)$
 $y - 4 = -3x - 6$
 $+4$

11. A line through (2, 4) and slope = $\frac{1}{3}$

A. $y = x + 2$

B. $y = x - 2$

C. $y = \frac{1}{3}x - \frac{10}{3}$

D. $y = \frac{1}{3}x + \frac{10}{3}$

$y - 4 = \frac{1}{3}(x - 2)$
 $y - 4 = \frac{1}{3}x - \frac{2}{3}$
 $+4$

12. A line through (-1, 6) and slope = $-\frac{2}{3}$

A. $y = -\frac{2}{3}x + \frac{16}{3}$

B. $y = -\frac{2}{3}x - \frac{16}{3}$

C. $y = -\frac{2}{3}x + \frac{20}{3}$

D. $y = -\frac{2}{3}x - \frac{20}{3}$

$y - 6 = -\frac{2}{3}(x + 1)$
 $y - 6 = -\frac{2}{3}x - \frac{2}{3}$
 $+6$

13. A line through (4, -3) and parallel to the line $y = -4x + 1$.

A. $y = -4x + 13$

B. $y = -4x - 13$

C. $y = -4x - 19$

D. $y = -4x + 19$

$y + 3 = -4(x - 4)$
 $y + 3 = -4x + 16$
 -3

14. A line through (4, -5) and perpendicular to the line $y = 2x + 5$.

A. $y = -\frac{1}{2}x + 7$

B. $y = -\frac{1}{2}x - 7$

C. $y = -\frac{1}{2}x - 3$

D. $y = -\frac{1}{2}x + 3$

$y + 5 = -\frac{1}{2}(x - 4)$
 $y + 5 = -\frac{1}{2}x + 2$
 -5

15. A line through (6, 2) and (5, -3).

A. $y = 5x - 28$

B. $y = -\frac{1}{5}x + \frac{28}{5}$

C. $y = 5x + 28$

D. $y = 5x + 2$

$\frac{2 - (-3)}{6 - 5} = \frac{5}{1} = 5$
 $y - 2 = 5(x - 6)$
 $y - 2 = 5x - 30$
 $+2$

16. A line through (-4, 1) and (1, 3).

A. $y = \frac{2}{5}x - \frac{13}{5}$

B. $y = \frac{2}{5}x + \frac{13}{5}$

C. $y = 5x + 2$

D. $y = \frac{2}{5}x + \frac{17}{5}$

$\frac{3 - 1}{1 - (-4)} = \frac{2}{5}$
 $y - 1 = \frac{2}{5}(x + 4)$
 $y - 1 = \frac{2}{5}x + \frac{8}{5}$
 $+1$

17. A line through (1, -2) and (4, -2).

A. $y = -2$

B. $y = 1$

C. $x = 1$

D. $x = 4$

$\frac{-2 - (-2)}{4 - 1} = \frac{0}{3} = 0 = \text{Horizontal Line, therefore}$

18. A line through (5, 3) and (5, -6).

A. $y = 3$

B. $y = -6$

C. $x = 5$

D. $x = 3$

$\frac{3 - (-6)}{5 - 5} = \frac{9}{0} = \text{Undefined on No Slope} = \text{Vertical Line}$
 Points(30)

- 9. _____
- 10. _____
- 11. _____
- 12. _____
- 13. _____
- 14. _____
- 15. _____
- 16. _____
- 17. _____
- 18. _____

For #19-22, find the equation in STANDARD form that describes each line.

19. A line through (2, -7) and slope = $\frac{2}{5}$

- A. $2x + 5y = -39$ B. $2x - 5y = 39$ C. $2x - 5y = -39$ D. $2x + 5y = 39$

$y + 7 = \frac{2}{5}(x - 2)$
 $y + 7 = \frac{2}{5}x - \frac{4}{5}$
 $y + 7 = \frac{2}{5}x - \frac{4}{5}$
 $5y + 35 = 2x - 4$
 $-2x + 5y = -39$

$y = \frac{2}{5}x - \frac{39}{5}$ 5
 $5y = 2x - 39$
 $-2x + 5y = -39$

20. A line through (-3, 1) and slope = $-\frac{3}{4}$

- A. $3x + 4y = -5$ B. $3x + 4y = 5$ C. $3x - 4y = 5$ D. $3x - 4y = -5$

$y - 1 = -\frac{3}{4}(x + 3)$
 $y - 1 = -\frac{3}{4}x - \frac{9}{4}$
 $y - 1 = -\frac{3}{4}x - \frac{9}{4}$
 $4y - 4 = -3x - 9$
 $4y = -3x - 5$

$y = -\frac{3}{4}x - \frac{5}{4}$ 4
 $4y = -3x - 5$

21. A line through (2, 3) and parallel to the line $y = 4x - 7$.

- A. $4x + y = 5$ B. $4x + y = -5$ C. $4x - y = -5$ D. $4x - y = 5$

$y - 3 = 4(x - 2)$
 $y - 3 = 4x - 8$
 $y - 3 = 4x - 8$
 $-4x + y = -5$

22. A line through (-3, 5) and perpendicular to the line $y = -3x - 2$.

- A. $x + 3y = 18$ B. $x + 3y = -18$ C. $x - 3y = 18$ D. $x - 3y = -18$

$y - 5 = \frac{1}{3}(x + 3)$
 $y - 5 = \frac{1}{3}x + 1$
 $y - 5 = \frac{1}{3}x + 1$
 $3y - 15 = x + 3$
 $-x + 3y = 18$

$y = \frac{1}{3}x + 6$ 3
 $3y = x + 18$
 $-x + 3y = 18$

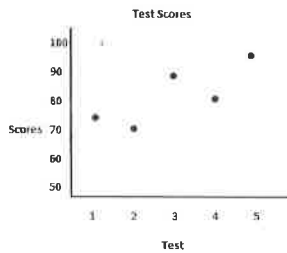
23. When are two lines perpendicular?

- A. When the slopes are opposites B. When the slopes are reciprocals
 C. When the slope are negative D. When the slopes are negative reciprocals

For #24-26, use the scatter plot shown to the right.

24. How would you describe the relationship?

- A. Strong negative correlation
 B. Weak negative correlation
 C. Strong positive correlation
 D. Weak positive correlation



25. Using the points (1, 75), (2, 71), (3, 88), (4, 82) and (5, 97) from the scatter plot, use your graphing calculator to find the regression line (best-fit line).

- A. $y = 4.6x + 60.3$ B. $y = 5.5x + 66.1$ C. $y = 6.2x + 68.7$ D. $y = 7.1x + 70.6$

26. What is the value of the correlation coefficient?

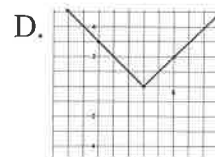
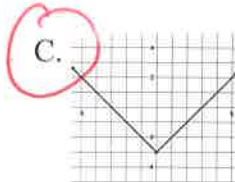
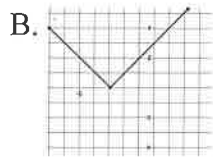
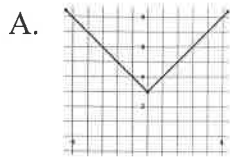
- A. .654 B. .704 C. .839 D. .914

Points(27) _____

27. Based on the equation from #25, predict the 6th game to be when $x = 6$.

- A. 88 B. 92 C. 99 D. 120

28. Which graph represents the equation $y = |x| - 3$?



29. What is the Domain and Range of the graph of #28?

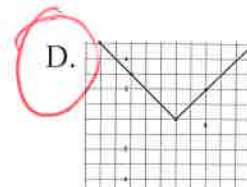
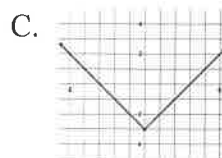
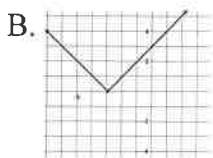
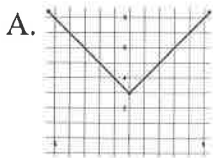
A. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \geq 3\}$

B. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \geq 0\}$

C. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \geq -3\}$

D. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \leq 0\}$

30. Which graph represents the equation $y = |x - 3|$?



31. What is the Domain and Range of the graph of #30?

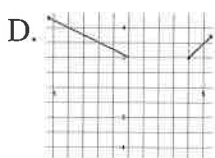
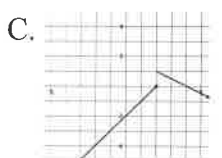
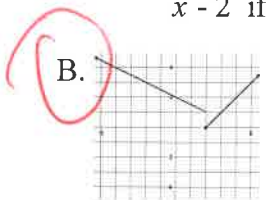
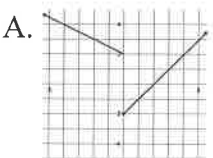
A. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \geq 3\}$

B. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \geq 0\}$

C. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \geq -3\}$

D. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \leq 0\}$

32. Which graph represents $f(x) = \begin{cases} -\frac{1}{2}x + 2 & \text{if } x < 2 \\ x - 2 & \text{if } x \geq 2 \end{cases}$?



33. What is the Domain and Range of the graph of #32?

A. $D: \{\mathbb{R} > 2\}$
 $R: \{\mathbb{R} \geq 0\}$

B. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \geq 0\}$

C. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R} \geq 2\}$

D. $D: \{\mathbb{R}\}$
 $R: \{\mathbb{R}\}$

(1 Point)

34. What is the correct answer to the military branch on Mr. Whitlow's coffee mug?

- A. Army
C. Air Force

- B. Navy
D. Marines (correct answer)

28. _____

29. _____

30. _____

31. _____

32. _____

33. _____

34. _____

Points(19) _____