Algebra 1

Practice Chapter 3 Test

NAME KEY

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

Determine whether the equation is linear to #1 and #2. If so, write the equation in standard form.

1. $3y = 5x - 9$

   A. Yes; $5x + 3y = -9$
   B. Yes; $5x - 3y = 9$
   C. Yes; $5x - 3y = -9$
   D. Not Linear

$-5x + 3y = -9$
$5x - 3y = 9$

2. $\frac{2}{5}y = \frac{1}{3}x + 4$ 15

   A. Yes; $-5x + 6y = 60$
   B. Yes; $5x - 6y = 60$
   C. Yes; $5x - 6y = -60$
   D. Not Linear

$6y = 5x + 60$
$-5x + 6y = 60$
$5x - 6y = -60$

3. What is the x-intercept of $3x - 4y = 12$

   A. 3 B. 4 C. -3 D -4

$3x = 12$
$x = 4$

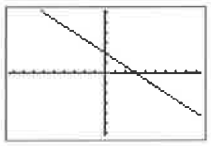
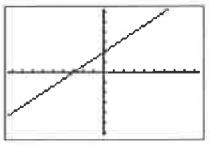
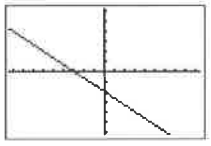
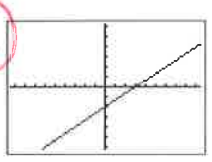
4. What is the y-intercept of $3x - 4y = 12$

   A. 3 B. 4 C. -3 D. -4

$-4y = 12$
$y = -3$

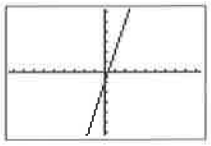
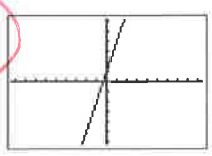
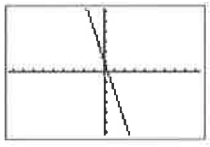
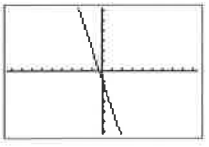
5. Which graph is the equation $2x - 3y = 6$ when the x and y intercepts are used.

$2x = 6$
$x = 3$
$-3y = 6$
$y = -2$

A. 
B. 
C. 
D. 

6. Graph $y = 3x + 1$ by making a table.

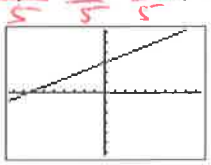
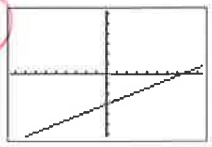
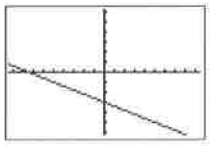
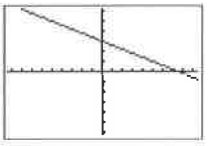
x	y
0	1
1	4
-1	-2

A. 
B. 
C. 
D. 

7. Graph $5y = 2x - 15$ by making a table.

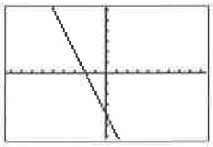
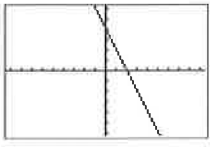
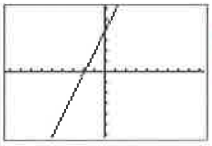
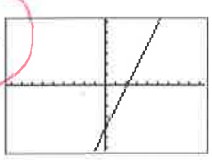
$\frac{5y}{5} = \frac{2x}{5} - \frac{15}{5}$
$y = \frac{2}{5}x - 3$

x	y
0	-3
5	-1
-5	-5

A. 
B. 
C. 
D. 

8. Graph $y = 2x - 4$ by making a table.

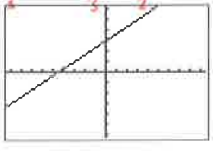
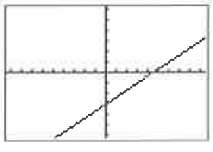
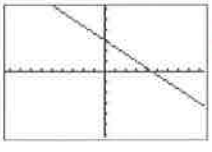
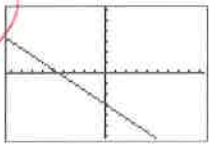
x	y
0	-4
1	-2
-1	-6

A. 
B. 
C. 
D. 

9. Graph $3y = -2x - 9$ by making a table.

$\frac{3y}{3} = \frac{-2x}{3} - \frac{9}{3}$
$y = -\frac{2}{3}x - 3$

x	y
0	-3
3	-5
-3	-1

A. 
B. 
C. 
D. 

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

Points(27)_____

10. Graph $y = 3x - 6$ and determine its solution.

A. 2 B. 3 C. -6 D. 12

$y = 3x - 6$
$0 = 3x - 6$
$+6 \quad +6$
$\frac{6}{3} = \frac{3x}{3}$
$x = 2$

11. Graph $y = -4x - 4$ and determine its solution.

A. 4 B. -1 C. 2 D. ∅

$y = -4x - 4$
$0 = -4x - 4$
$+4 \quad +4$
$\frac{4}{-4} = \frac{-4x}{-4}$
$-1 = x$

12. Graph $y = \frac{1}{3}x - 4$ and determine its solution.

A. $\frac{3}{4}$ B. -7 C. 10 D. 12

$y = \frac{1}{3}x - 4$
$0 = \frac{1}{3}x - 4$
$+4 \quad +4$
$4 = \frac{1}{3}x \cdot 3$
$12 = x$

For #13-23, find the slope of the two points.

13. (3, 5), (6, 1)

A. 5 B. $-\frac{4}{3}$ C. $\frac{1}{6}$ D. -6

$\frac{5-1}{3-6} = -\frac{4}{3}$

14. (-2, 6), (-4, -2)

A. 3 B. 4 C. $\frac{1}{3}$ D. –3

$\frac{6--2}{-2--4} = \frac{8}{2}$

15. (5, 7), (3, 2)

A. 5 B. $\frac{2}{5}$ C. $\frac{5}{2}$ D. No Slope

$\frac{7-2}{5-3} = \frac{5}{2}$

16. (-7, 6), (-7, -1)

A. 4 B. $-\frac{3}{2}$ C. 0 D. No Slope

$\frac{6--1}{-7--7} = \frac{7}{0}$

17. (-10, 2), (-8, 5)

A. $\frac{3}{2}$ B. $\frac{5}{3}$ C. $\frac{6}{5}$ D. $\frac{2}{3}$

$\frac{2-5}{-10--8} = \frac{-3}{-2}$

18. (9, -5), (-4, -5)

A. 3 B. $\frac{16}{19}$ C. 0 D. No Slope

$\frac{-5--5}{4--4} = \frac{0}{13}$

19. (3, 5), (-2, 6)

A. $-\frac{3}{5}$ B. $-\frac{5}{3}$ C. $-\frac{1}{5}$ D. 17

$\frac{5-6}{3--2} = \frac{-1}{5}$

20. (-4, -2), (-7, -4)

A. $\frac{2}{3}$ B. $\frac{1}{6}$ C. $-\frac{3}{2}$ D. $\frac{7}{6}$

$\frac{-2--4}{-4--7} = \frac{2}{3}$

21. (-8, -2), (-6, -7)

A. $\frac{2}{3}$ B. $-\frac{2}{3}$ C. $-\frac{5}{2}$ D. $\frac{5}{2}$

$\frac{-2--7}{-8--6} = \frac{5}{-2}$

22. (4, -2), (-1, 1)

A. $-\frac{5}{3}$ B. $\frac{5}{3}$ C. $-\frac{3}{5}$ D. $\frac{3}{5}$

$\frac{-2-1}{4--1} = \frac{-3}{5}$

23. (0, -10), (8, 0)

A. $\frac{5}{4}$ B. $-\frac{5}{4}$ C. $\frac{8}{10}$ D. $-\frac{4}{5}$

$\frac{-10-0}{0-8} = \frac{-10}{-8}$

10._____

11._____

12._____

13._____

14._____

15._____

16._____

17._____

18._____

19._____

20._____

21._____

22._____

23._____

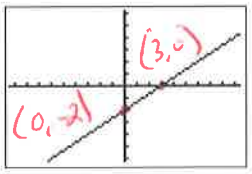
Points(42)_____

24. Determine the value of r so that the line through $(r, 4)$ and $(-7, 7)$ has a slope $(m) = \frac{3}{4}$

A. -3 B. -11 C. 3 D. 9

$\frac{4-7}{r-7} = \frac{3}{4}$ $-12 = 3r + 21$ -21 -21 $\frac{-33}{3} = \frac{3r}{3}$

25. Determine the slope of the line graphed to the right.



A. $\frac{2}{3}$ B. $\frac{3}{2}$ C. $-\frac{3}{2}$ D. $-\frac{2}{3}$

$\frac{-2-0}{0-3} = \frac{-2}{-3}$

26. What is the next term in the sequence 2, 5, 8, 11, ... (+3 +3 +3 +3)

A. 8 B. 12 C. 14 D. 18

27. What is the next term in the sequence 2, 4, 8, 16, 32, ... (x2 x2 x2 x2 x2)

A. 48 B. 64 C. 128 D. 256

28. Determine which sequence is an arithmetic sequence.

A. 4, 8, 12, 16 (+4, +4, +4) B. -7, -1, 3, 5 (+6, +4, +2)

C. $\frac{2}{5}, \frac{6}{5}, \frac{12}{5}, \frac{21}{5}$ $+\frac{4}{5}, +\frac{6}{5}, +\frac{9}{5}$ D. 20, 16, 10, 2 (-4, -6, -8)

29. Determine which sequence is NOT an arithmetic sequence.

A. -8, 0, 8, 16 (+8, +8, +8) B. 7, 3, -1, -5 (+4, +4, +4)

C. $0, \frac{3}{2}, 3, \frac{9}{2}$ $+\frac{3}{2}, +\frac{3}{2}, +\frac{3}{2}$ D. 1, 2, 4, 8 (+1, +2, +4)

For questions #30 and #31, use $a_n = a_1 + (n - 1)d$ to help write an equation

30. Which equation describes the nth term of the arithmetic sequence 14, 25, 36, 47, 58, ...?

A. $a_n = -11n + 3$ B. $a_n = 3n - 11$

C. $a_n = 11n + 3$ D. $a_n = 3n + 11$

$a_n = 14 + (n-1)11$
$a_n = 14 + 11n - 11$
$a_n = 11n + 3$

31. Which equation describes the nth term of the arithmetic sequence 3, 11, 19, 26, 34, ...?

A. $a_n = -4n + 11$ B. $a_n = 8n - 5$

C. $a_n = 4n + 11$ D. $a_n = -8n - 5$

$a_n = 3 + (n-1)8$
$a_n = 3 + 8n - 8$
$a_n = 8n - 5$

Points(30)_____

32. Find the function that represents the relationship.

A. $y = 8x$ B. $y = 6x + 4$

C. $y = 8x + 14$ D. $y = 6x + 4$

x	0	1	2	3	4
y	4	10	16	22	28

(+6 +6 +6 +6) $\frac{6}{1}$ $y = 6x$ $y = 6x + 4$

33. Find the function that represents the relationship.

A. $y = 4x$ B. $y = 4x + 3$

C. $y = 4x + 2$ D. $y = 4x + 1$

x	2	3	4	5	6
y	9	13	17	21	25

$\frac{4}{1}$ $y = 4x$ $y = 4x + 1$