

A6 - Vectors hw #1-29 odds due tomorrow

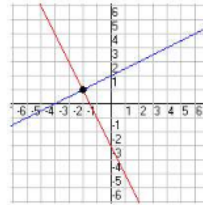
Final WEDNESDAY Reviews due Tuesday

Math 1 – Final Practice Test

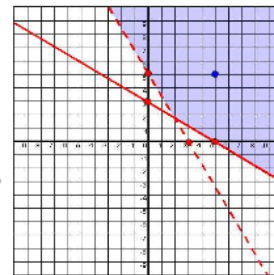
Name _____

1. Which of the following points represents a solution to the equation $y = -2x + 1$?
 a. (-1, 1) b. (-2, -4) c. (1, -3) d. (2, -3)

2. What is the solution of the systems of equations graphed?
 a. (-2, 1) b. (1, -2) c. (1, 2) d. (2, -1)



3. Find the system of inequalities of this graph.
 a. $y < \frac{3}{5}x + 3$, $y \geq \frac{5}{3}x + 5$ c. $y \geq \frac{3}{5}x + 3$, $y > \frac{5}{3}x + 5$
 b. $y \leq \frac{3}{5}x + 3$, $y < \frac{5}{3}x + 5$ d. $y \leq \frac{3}{5}x + 3$, $y \geq \frac{5}{3}x + 5$



4. Which of the following points would be a solution for this graph?
 a. (-4, 0) b. (0, 4) c. (4, 0) d. (4, 4)

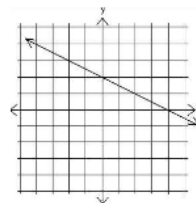
5. Which of the following sets of data represents a function?
 a. $\{(-3, 2), (2, -3), (-3, 3)\}$ c. $\{(-1, 2), (4, 2), (7, 2)\}$
 b. $\{(-3, 2), (4, 3), (4, 1)\}$ d. $\{(4, 2), (-1, 2), (-1, 1)\}$

$$\begin{array}{r|l} 2 & \\ \hline -1 & -3 \\ 2 & -1 \\ \hline \end{array}$$

6. Write the first four terms for the sequence of this function: $a_n = -3 + 2(n - 1)$
 a. $\{2, -1, -4, -7\}$ b. $\{2, 5, 8, 11\}$ c. $\{-3, -1, 1, 3\}$ d. $\{-1, 2, 5, 8\}$

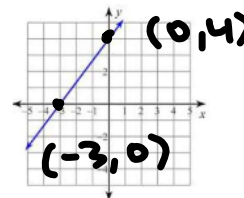
-3 + 2

7. Using the slope and the y-intercept, find the function of this graph:
 a. $f(x) = -2x + 2$ b. $f(x) = 1/2x + 2$ c. $f(x) = 2x - 1/2$ d. $f(x) = -1/2x + 2$



Ax + By = C

8. Using the x-intercept and the y-intercept, find the equation of this graph:
 a. $-4x + 3y = 12$ b. $-3x + 4y = -12$ c. $x - y = 12$ d. $-2x + y = 12$



$$\begin{array}{r|l} x & y \\ \hline 0 & 4 \\ -3 & 0 \\ \hline \end{array}$$

Math 1 – Final Practice Test

Name _____

9. You have 4 dollars, then you earn 8 dollars on day 1 of a job, 16 dollars on day 2, 32 dollars on day 3, and so on. If this continues in the same pattern, what is the explicit form of a sequence that represents the situation?

- a. $a_n = 2 \cdot 4^{n-1}$ b. $a_n = 2 \cdot 4^n$ c. $a_n = 4 \cdot 2^{n-1}$ d. $a_n = 4 \cdot 2^n$

10. If $f(x) = -3x + 1$ and $g(x) = 3x - 4$, find $(f-g)(x)$.

- a. $-6x + 7$ b. 5 c. $-6x + 5$ d. $x - 3$

11. If $f(x) = x + 1$ and $g(x) = -2x - 3$, find $(f(g(x)))$.

- a. $-3x - 2$ **b. $-2x - 2$** c. $2x - 3$ d. $7x + 8$

$$-2x - 3 + 1 = -2x - 2$$

↑ x"

12. On day 1, your overdue book fine is \$1. Every day after that it increases by \$0.25. Choose the correct explicit formula.

- a. $a_n = 0.25 + 1n$ b. $f(x) = 1 + 0.25n$ c. $f(x) = 1 + 0.25(n - 1)$ d. $f(x) = 0.25 + 1(n - 1)$

13. What kind of sequence is represented by $\{-5, 10, 25, 40, \dots\}$?

- a. Arithmetic** b. Geometric c. Exponential d. Neither

$$+15, +15, +15$$

14. If the parent graph is $y = 2^x$, how would the graph of $y = 2^{x-1} + 3$ be transformed?

- a. 3 units to the right, 1 unit down b. 3 units to the left, 1 unit down
c. 1 unit to the right, 3 units up d. 1 unit to the left, 3 units up

← right 1
up 3

$$y = 3^x \qquad y = 3^{x+4} - 5$$

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Name _____

15. For the sequence:



What is the explicit formula that will help you find the number of triangles in the n^{th} term?

- a. $a_n = 2 + 3(n - 1)$ b. $a_n = 3 + 3(n - 1)$ c. $a_n = 3 + 2(n - 1)$ d. $a_n = 2 + 2(n - 1)$

16. If the table below represents an exponential growth function, what value for Y should go in the blank in the table?

X	Y
1	3
2	9
3	—

- a. 15 b. 18 c. 24 d. 27

17. Write a recursive formula for the sequence: -2, 8, -32, ...

- a. $a_1 = -4, a_n = -2a_{(n-1)}$ b. $a_1 = -2, a_n = \frac{a_{(n-1)}}{4}$
 c. $a_1 = -2, a_n = 4a_{(n-1)}$ d. $a_1 = -2, a_n = -4a_{(n-1)}$

18. Sally invests some money and earns \$100 each day. Bob invest some money and earns 8% interest each day. What is true about these investments?

- a. Bob's represents an exponential function, Sally's represents an exponential function
 b. Bob's represents an exponential function, Sally's represents a linear function
 c. Bob's represents a linear function, Sally's represents an exponential function
 d. Bob's represents a linear function, Sally's represents a linear function

19. In solving this equation, at what step was there a mistake made:

$$-2(x - 1) + 4 = 10$$

- a. $-2(x - 1) = 6$
 b. $-2x - 2 = 6$
 c. $-2x = 8$
 d. $x = -4$

Math 1 – Final Practice Test

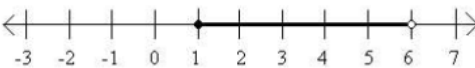
Name _____

20. What would be the first step to solve this equation? $\frac{4-x}{8} = -2$

- a. subtract 4 from both sides b. multiply both sides by -2
 c. divide both sides by 2 d. multiply both sides by 8

21. Solve: $-5 + |3n| = 16$

- a. $n = 7$ b. $n = 11/3$ c. $n = -7, 7$ d. $n =$ no solution

22. What inequality is graphed? 

- a. $1 < x \leq 6$ b. $x < 1$ or $x \geq 6$ c. $1 \leq x < 6$ d. $x \leq 1$ or $x > 6$

23. Solve the formula for h : $V = \frac{1}{3}\pi r^2 h$

- a. $h = \frac{3V}{\pi r^2}$ b. $r = \frac{V}{3\pi h}$ c. $V = \frac{3h}{\pi r^2}$ d. $h = \frac{Vr^2}{3\pi}$

24. Solve: $2^{n-3} = 64$

- a. $n = 9$ b. $n = 3$ c. $n = 7$ d. $n = 8$

25. Solve this system of equations: $4x - y = 8$
 $2x + 2y = 4$

- a. $(-4, 1)$ b. $(2, 0)$ c. $(-3, 2)$ d. $(0, -2)$

Math 1 – Final Practice Test

Name _____

26. Adult tickets for the school musical sold for \$8 and students tickets sold for \$5. One hundred and seventy tickets were sold for \$1060. How many tickets of each kind were sold?

- a. 118 adults and 52 students
- b. 27 adults and 143 students
- c. 79 adults and 91 students
- d. 70 adults and 100 students

For questions 27-30, Using a calculator and the data from the table of test scores of these 25 math students.

27. Find the mean, round to the nearest tenth if necessary.
 a. 67.6 b. 65 c. 62.1 d. 18.2

28. Find the median.
 a. 75 b. 67.5 c. 65 d. 70

29. What is the range of the data?
 a. 10 b. 20 c. 30 d. 40

30. Classify the data in the table
 a. Skewed left c. Skewed right
 b. Uniform d. Symmetrical

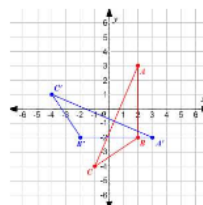
Score	Frequency
50	
55	
60	
65	≡
70	≡
75	≡
80	

31. Find the best equation (linear or exponential) for the temperature of a hot tub as a function of time.

- a. $y = -1.7x + 106$
- b. $y = 1.4x + 80.96$
- c. $y = 80(1.34)^x$
- d. $y = 1.65(91)^x$

Time (min.)	Temp °F
0	80
3	85
7	91
10	94
12	99
15	105
20	106

32. What type of transformation is represented in the graph:
 a. reflection b. translation c. rotation d. dilation



Math 1 – Final Practice Test

Name _____

33. If a triangle is reflected across the line $y=1$, and then across the x -axis, what one transformation would produce the same results as this double reflection?

- a. reflection b. translation c. rotation d. dilation

34. Because reflections, rotations, and translations are rigid motion transformations, this means that the pre-image and the image have what relation?

- a. they are similar b. they are congruent c. they are opposites d. they are solid

35. Which of the following corresponding parts of a triangle would not be enough information to prove that the two triangles are congruent?

- a. two corresponding sides and the non-included angle are congruent
 b. all three corresponding sides are congruent
 c. two corresponding sides and the included angle are congruent
 d. the hypotenuse and a corresponding leg in a right triangle are congruent

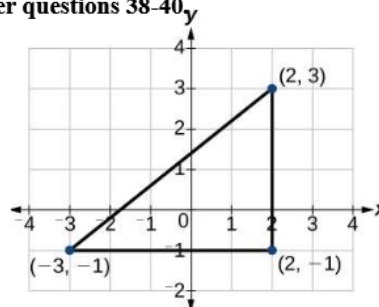
36. Which of the following linear equations would be perpendicular to the equation $y = 2x + 7$?

- a. $y = -2x + 7$ b. $y = 7x + 2$ c. $y = -1/2x + 7$ d. $y = 2x - 3$

37. Which of the following linear equations would be parallel to the equation $y = 4x - 1$?

- a. $y = 4x + 7$ b. $y = -x + 4$ c. $y = -1/4x + 7$ d. $y = -4x - 3$

Given the triangle A(-3, -1), B(2, 3), and C(2, -1), answer questions 38-40.



38. What is the length of \overline{BC} ?

- a. 5 units b. 5.5 units c. 4 units d. 6.4 units

39. What is the perimeter of the triangle?

- a. 15.4 units b. 20 units c. 10.5 units d. 12 units

40. What is the area of the triangle?

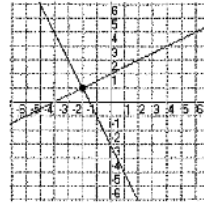
- a. 8 units² b. 14 units² c. 10 units² d. 20 units²

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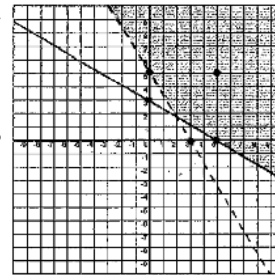
Name Kiley

1. Which of the following points represents a solution to the equation $y = -2x + 1$?
 a. (-1, 1) b. (-2, -4) c. (1, -3) **d. (2, -3)**

2. What is the solution of the systems of equations graphed?
a. (-2, 1) b. (1, -2) c. (1, 2) d. (2, -1)



3. Find the system of inequalities of this graph.
 a. $y < -5/3x + 3, y \geq -3/5x + 5$ **c. $y \geq -5/3x + 3, y > -3/5x + 5$**
 b. $y \leq -5/3x + 3, y < -3/5x + 5$ d. $y \leq -5/3x + 3, y \geq -3/5x + 5$

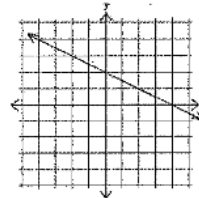


4. Which of the following points would be a solution for this graph?
 a. (-4, 0) b. (0, 4) c. (4, 0) **d. (4, 4)**

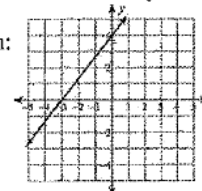
5. Which of the following sets of data represents a function?
 a. $\{(-3, 2), (2, -3), (-3, 3)\}$ **c. $\{(-1, 2), (4, 2), (7, 2)\}$**
 b. $\{(-3, 2), (4, 3), (4, 1)\}$ d. $\{(4, 2), (-1, 2), (-1, 1)\}$

6. Write the first four terms for the sequence of this function: $a_n = -3 + 2(n - 1)$
 a. $\{2, -1, -4, -7\}$ b. $\{2, 5, 8, 11\}$ **c. $\{-3, -1, 1, 3\}$** d. $\{-1, 2, 5, 8\}$

7. Using the slope and the y-intercept, find the function of this graph:
 a. $f(x) = -2x + 2$ b. $f(x) = 1/2x + 2$ c. $f(x) = 2x - 1/2$ **d. $f(x) = -1/2x + 2$**



8. Using the x-intercept and the y-intercept, find the equation of this graph:
a. $-4x + 3y = 12$ b. $-3x + 4y = -12$ c. $x - y = 12$ d. $-2x + y = 12$



9. You have 4 dollars, then you earn 8 dollars on day 1 of a job, 16 dollars on day 2, 32 dollars on day 3, and so on. If this continues in the same pattern, what is the explicit form of a sequence that represents the situation?
 a. $a_n = 2 \cdot 4^{n-1}$ b. $a_n = 2 \cdot 4^n$ c. $a_n = 4 \cdot 2^{n-1}$ **d. $a_n = 4 \cdot 2^n$**

4, 8, 16, 32, $4 \cdot 2^n$

Math 1 – Final Practice Test

Name Key

10. If $f(x) = -3x + 1$ and $g(x) = 3x - 4$, find $(f-g)(x)$.
 a. $-6x + 7$ b. 5 **c. $-6x + 5$** d. $x - 3$

$-3x + 1 - 3x + 4$

11. If $f(x) = x + 1$ and $g(x) = -2x - 3$, find $(f \circ g)(x)$.
 a. $-3x - 2$ **b. $-2x - 2$** c. $2x - 3$ d. $7x + 8$

$-4x + 5$

$-2x - 3 + 1 = -2x - 2$

12. On day 1, your overdue book fine is \$1. Every day after that it increases by \$0.25. Choose the correct explicit formula.

a. $a_n = 0.25 + 1n$ b. $f(x) = 1 + 0.25n$ **c. $f(x) = 1 + 0.25(n - 1)$** d. $f(x) = 0.25 + 1(n - 1)$

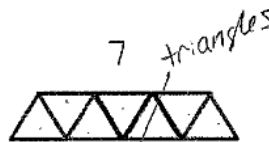
13. What kind of sequence is represented by $\{-5, 10, 25, 40, \dots\}$?

a. Arithmetic b. Geometric c. Exponential d. Neither

14. If the parent graph is $y = 2^x$, how would the graph of $y = 2^{x-1} + 3$ be transformed?

a. 3 units to the right, 1 unit down b. 3 units to the left, 1 unit down
 c. 1 unit to the right, 3 units up d. 1 unit to the left, 3 units up

15. For the sequence:



What is the explicit formula that will help you find the number of squares in the n^{th} term?

a. $a_n = 2 + 3(n - 1)$ b. $a_n = 3 + 3(n - 1)$ **c. $a_n = 3 + 2(n - 1)$** d. $a_n = 2 + 2(n - 1)$

16. If the table below represents an exponential growth function, what value for Y should go in the blank in the table?

X	Y
1	3
2	9
3	<u>27</u>

a. 15 b. 18 c. 24 **d. 27**

17. Write a recursive formula for the sequence: $-2, 8, 32, \dots$

a. $a_1 = -4, a_n = -2a_{(n-1)}$

b. $a_1 = -2, a_n = \frac{a_{(n-1)}}{4}$

c. $a_1 = -2, a_n = 4a_{(n-1)}$

d. $a_1 = -2, a_n = -4a_{(n-1)}$

18. Sally invests some money and earns \$100 each day. Bob invest some money and earns 8% interest each day. What is true about these investments?

a. Bob's represents an exponential function, Sally's represents an exponential function
b. Bob's represents an exponential function, Sally's represents a linear function
 c. Bob's represents a linear function, Sally's represents an exponential function
 d. Bob's represents a linear function, Sally's represents a linear function

Math 1 – Final Practice Test

Name KWJ

19. In solving this equation, at what step was there a mistake made:

- $-2(x - 1) + 4 = 10$
 a. $-2(x - 1) = 6$
 b. $-2x - 2 = 6$
 c. $-2x = 8$
 d. $x = -4$

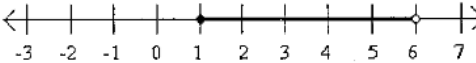
20. What would be the first step to solve this equation? $\frac{4-x}{8} = -2$

- a. subtract 4 from both sides
 b. multiply both sides by -2
 c. divide both sides by 2
 d. multiply both sides by 8

21. Solve: $-5 + |3n| = 16$
 a. $n = 7$ b. $n = 11/3$ c. $n = -7, 7$ d. $n = \text{no solution}$

$|3n| = 21$
 $3n = 21$ $3n = -21$
 $n = 7$ $n = -7$

22. What inequality is graphed?



- a. $1 < x \leq 6$ b. $x < 1 \text{ or } x \geq 6$ c. $1 \leq x < 6$ d. $x \leq 1 \text{ or } x > 6$

23. Solve the formula for h : $V = \frac{1}{3}\pi r^2 h$

- a. $h = \frac{3V}{\pi r^2}$ b. $r = \frac{V}{3\pi h}$ c. $V = \frac{3h}{\pi r^2}$ d. $h = \frac{Vr^2}{3\pi}$

$\frac{3V}{\pi r^2} = h$

24. Solve: $2^{n-3} = 64$

- a. $n = 9$ b. $n = 3$ c. $n = 7$ d. $n = 8$

$2^{n-3} = 2^6$ $n-3=6$
 $n=9$

25. Solve this system of equations: $4x - y = 8$

- a. $(-4, 1)$ b. $(2, 0)$ c. $(-3, 2)$ d. $(0, -2)$

$8x - 2y = 16$
 $2x + 2y = 4$

 $10x = 20$
 $x = 2$
 $8 - y = 8$
 $y = 0$

26. Adult tickets for the school musical sold for \$8 and students tickets sold for \$5. One hundred and seventy tickets were sold for \$1060. How many tickets of each kind were sold?

- a. 118 adults and 52 students b. 27 adults and 143 students
 c. 79 adults and 91 students d. 70 adults and 100 students

$8A + 5S = 1060$
 $A + S = 170$
 $-8A - 8S = -1360$
 $-3S = -300$
 $S = 100$
 $A = 70$

Math 1 – Final Practice Test

Name Kelly

For questions 27-30, Using a calculator and the data from the table of test scores of these 25 math students.

27. Find the mean, round to the nearest tenth if necessary.

- a. 67.6 b. 65 c. 62.1 d. 18.2

28. Find the median.

- a. 75 b. 67.5 c. 65 d. 70

29. What is the range of the data?

- a. 10 b. 20 c. 30 d. 40

30. Classify the data in the table

- a. Skewed left c. Skewed right
b. Uniform d. Symmetrical

Score	Frequency
50	1
55	11
60	11
65	7
70	7
75	7
80	1

31. Find the best equation (linear or exponential) for the temperature of a hot tub as a function of time.

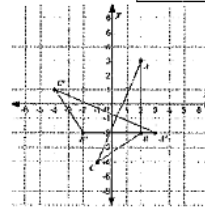
- a. $y = -1.7x + 106$
b. $y = 1.4x + 80.96$
c. $y = 80(1.34)^x$
d. $y = 1.65(91)^x$

$L: y = 1.39x + 80.9$
 $r = .9812$
 $E: y = 81.3 \cdot 1.02^x$
 $r = .9789$

Time (min.)	Temp °F
0	80
3	85
7	91
10	94
12	99
15	105
20	106

32. What type of transformation is represented in the graph:

- a. reflection b. translation c. rotation d. dilation



33. If a triangle is reflected across the line $y=1$, and then across the x -axis, what one transformation would produce the same results as this double reflection?

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34. Because reflections, rotations, and translations are rigid motion transformations, this means that the pre-image and the image have what relation?

- a. they are similar b. they are congruent c. they are opposites d. they are solid

Math 1 – Final Practice Test

Name Kiley

35. Which of the following corresponding parts of a triangle would not be enough information to prove that the two triangles are congruent?

- a. two corresponding sides and the non-included angle are congruent
- b. all three corresponding sides are congruent
- c. two corresponding sides and the included angle are congruent
- d. the hypotenuse and a corresponding leg in a right triangle are congruent

36. Which of the following linear equations would be perpendicular to the equation $y = 2x + 7$?

- a. $y = -2x + 7$
- b. $y = 7x + 2$
- c. $y = -1/2x + 7$
- d. $y = 2x - 3$

37. Which of the following linear equations would be parallel to the equation $y = 4x - 1$?

- a. $y = 4x + 7$
- b. $y = -x + 4$
- c. $y = -1/4x + 7$
- d. $y = -4x - 3$

Given the triangle A(-3, -1), B(2, 3), and C(2, -1), answer questions 38-40.

38. What is the length of \overline{BC} ?

- a. 5 units
- b. 5.5 units
- c. 4 units
- d. 6.4 units

39. What is the perimeter of the triangle?

- a. 15.4 units
- b. 20 units
- c. 10.5 units
- d. 12 units

40. What is the area of the triangle?

- a. 8 units²
- b. 14 units²
- c. 10 units²
- d. 20 units²

