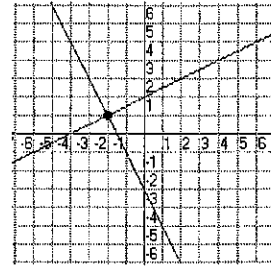


Math 1 – Final Practice Test

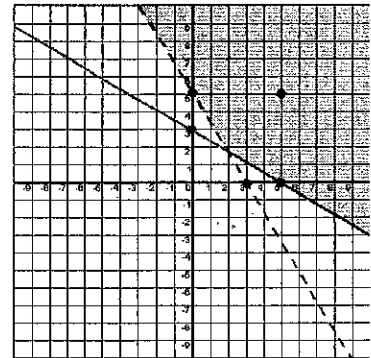
Name Kiley

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. $y \leq -5/3x + 3, y \geq -3/5x + 5$

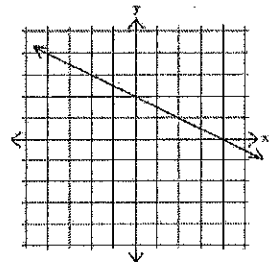


4. Which of the following points would be a solution for this graph?
 a. (-4, 0) b. (0, 4) c. (4, 0) **d. (4, 4)**

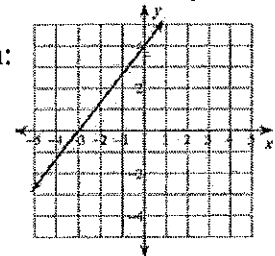
5. Which of the following sets of data represents a function?
 a. $\{(-3, 2), (2, -3), (-3, 3)\}$ **c. $\{(-1, 2), (4, 2), (7, 2)\}$**
 b. $\{(-3, 2), (4, 3), (4, 1)\}$ d. $\{(4, 2), (-1, 2), (-1, 1)\}$

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 $(f(g(x)))$.
 a. $-3x - 2$ **b. $-2x - 2$** c. $2x - 3$ d. $7x + 8$

$-6x + 5$

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

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. $f(x) = 0.25 + 1(n - 1)$

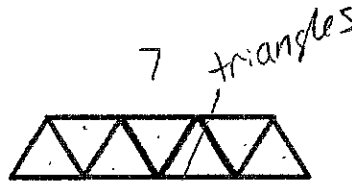
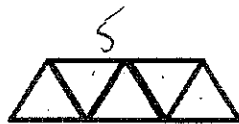
13. What kind of sequence is represented by $\{-5, 10, 25, 40, \dots\}$?

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 Key

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. $n = \text{no solution}$

$$|3n| = 21$$

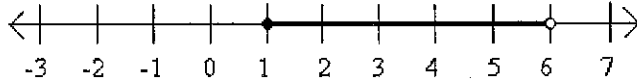
$$3n = 21$$

$$n = 7$$

$$3n = -21$$

$$n = -7$$

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: $4x - y = 8$

$$2x + 2y = 4$$

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

$$8x - 2y = 16$$

$$2x + 2y = 4$$

$$\hline 10x = 20$$

$$x = 2$$

$$8 - y = 8$$

$$y = 0$$

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 Key

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	I
55	II
60	III
65	IIII
70	IIIIIIII
75	IIII
80	I

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

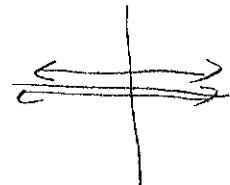
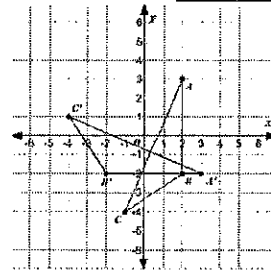
- a. $y = -1.7x + 106$
b. $y = 1.4x + 80.96$
c. $y = 80(1.34)^x$
d. $y = 1.65(91)^x$

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

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?

- 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

Math 1 – Final Practice Test

Name Key

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

