Coordinate Algebra **December 14**

Semester Exam Review Day-2

1. Draw a graph shows the solutions of $4x - 6 > 2x - 9$?

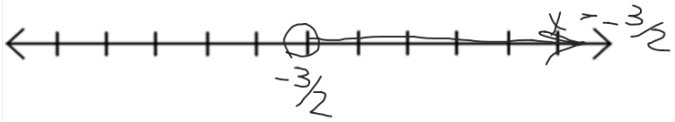
$-2x \quad -2x$

$2x - 6 > -9$

$+6 \quad +6$

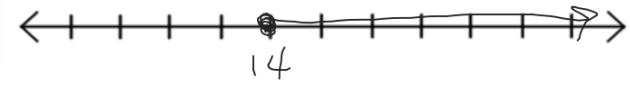
$2x > -3$

$x > -\frac{3}{2}$

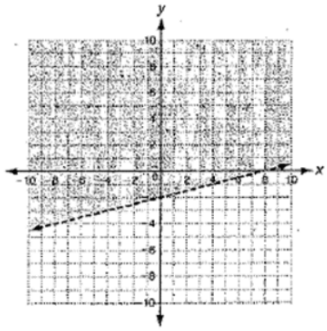


2. A manager said that the per item profit should be no less than $14. Draw a graph that shows the acceptable profits?

$x \geq 14$



3. Which inequality is represented by the graph below?



a. $y \geq \frac{1}{4}x - 2$

b. $y \geq 4x - 2$

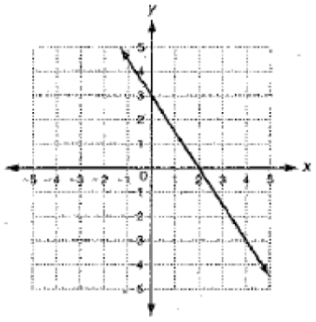
c. $y > \frac{1}{4}x - 2$

d. $y > 4x - 2$

4. Which of the following is NOT an arithmetic sequence?

a. 2, 2.5, 3, 3.5, …
b. 1, 2, 3, 4,…
c. $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}, 1, \ldots$
d. -2, 4, -6, 8, …

5. What is the slope of the line to the right?



$-3/2$

6. What is the slope of the line containing the ordered pair (2,3) and (-4,0)?

$$m = \frac{3-0}{2--4} = \frac{3}{6} = \frac{1}{2}$$

7. The table shows a relationship between how large a mother mammal is and how long she carries a baby before birth.

Animal Weight (kg)	730	600	15	35	1
Gestation Period (days)	284	270	150	148	33

Write an equation that could represent a line of best fit for this data?

8. Write a function that describes the transformation in terms of f(x)? Horizontal translation 3 units right.

9. How would you write the transformation from its parent equation of 5f(x)?

10. Which is the average rate of change over the interval [0,4]?

X	0	2	4	6
Y	0	4	16	36

$\frac{16-0}{4-0} = \frac{16}{4} = 4$

11. Solve **wx + 4z = 3** for z. $z = \frac{3 - wx}{4}$

$-wx \quad -wx$

$4z = 3 - wx$

12. Which relation is NOT a function?

A. (6,2), (2,6), (3,9)

B. (3,1), (3,5), (3,8)

C. (0,0), (1,1), (6,6)

D. (2,6), (4,6), (6,6)

13. Which is the average rate of change over the interval [0,10] for the equation f(x) = 15x + 13?

$m = 15$

Use the conversions in the table below to answer the questions:

Length	Volume	Mass
1 inch = 2.54 cm	1 quart = 0.9463 L	1 ounce = 28.35 g
5280 feet = 1 mile	4 quarts = 1 gallon	1 pound = 0.454 Kg
1 yard = 3 feet = 36 inches	32 ounces = 1 quart	16 ounces = 1 pound

14. A mass of 0.45 ounces is equal to how many grams?

$$\frac{.45\,\text{oz}}{1\,\text{oz}} \left| \frac{28.35\,\text{g}}{} \right. = 12.75 \text{ grams}$$

15. 4.00 gallons is equal to how many liters?

$$\frac{4\,\text{gal}}{1\,\text{gal}} \left| \frac{4\,\text{qts}}{1\,\text{qt}} \right| \frac{.9463\,\text{L}}{} = 15.1408\,\text{L}$$

16. A cell phone company charges a monthly fee of $40 and an additional $0.10 for each text message sent. Write an equation shows the relationship between the monthly bill (m) and the number of text messages sent (t)? $y = 40 + .10x$

17. Describe the the expression $x - .20(x) + 10$? in words.

18. Given the function, $f(x) = 3x + 7$ and a domain of $\{1, 2, 3, 4\}$, what is the range?

$y = 3(1) + 7 = 10$

$y = 3(2) + 7 = 13$

$y = 3(3) + 7 = 16$

$y = 3(4) + 7 = 19$

$\{10, 13, 16, 19\}$

19. Write equation represented in the table?

x	y
0	20
1	17
2	14

$\frac{20-17}{0-1} = \frac{3}{-1} = -3$

$y = mx + b$

$y = -3x + 20$

~~20.~~ Write the recursive and explicit form for the sequence 54, 18, 6, 2,…?

21. Write the explicit form for the sequence 8, 12, 16, 20, …?

$d = 4$ $\quad b = 1^{ST} - d$

$a_1 = 8$ $\quad = 8 - 4 = 4$

$a_n = 4n + 4$

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