Pre-AP Algebra 1 Unit 3 Quiz **Name:** _____

Sections 3-1 through 3-6 **Date:** _____ **Pd:** ____

1. Determine whether each equation is a linear equation. If yes, then write the equation in standard form if possible.

a. $3x - 5 + y = 2y - 4$ **b.** $6x - xy = 4$

2. Determine whether each set of ordered pairs satisfies a linear function. Explain.

a. {(-4, 29), (-1, 22), (3, 15), (-1, 8), (-4, 1)} **b.** $\left\{\left(\frac{1}{2}, -13\right), \left(\frac{3}{4}, -10\right), (1, -7), \left(\frac{5}{4}, -4\right), \left(\frac{3}{2}, -1\right)\right\}$

3. To thaw a specimen stored at $-25°C$, the temperature of a refrigeration tank is raised $5°C$ every hour. The temperature in the tank after x hours can be described by the function $f(x) = -25 + 5x$.

a. Graph the function. **b.** Identify its intercepts. **c.** What does each intercept represent?

4. Graph $6x + 3y = 12$ by using the x- and y- intercepts.

a. Find the intercepts algebraically and state them here: **b.** Graph the function.

5. The following table shows the distance of a courier from her destination. What is the rate of change from 2:15 p.m. to 2:30 p.m. Explain the meaning of her rate of change between 2:15 and 2:30.

Time (p.m.)	2:15	2:30	2:45	3:00
Distance (mi)	5.5	5.5	5.0	0.5

[redacted]

6. Find the slope of a line that passes through each pair of points.

a. $(-3, 4)$ and $(2, -3)$

b. $(-4, -2)$ and $(4, -2)$

[redacted]

7. Find the value of r so the line that passes through each pair of points has the given slope.

a. $(-6, r)$, $(-4, -2)$; $m = -2$

b. $(r, 18)$, $(11, 26)$; $m = 4$

[redacted]

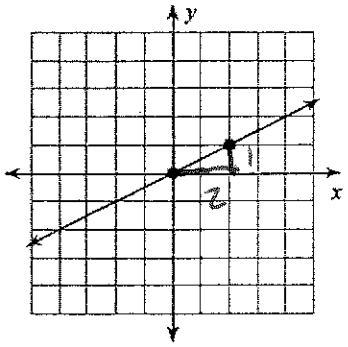
8. Explain how to tell whether the slope of a line is positive, negative, zero or undefined simply by looking at the graph. You should include sketches in your answer.

[redacted]

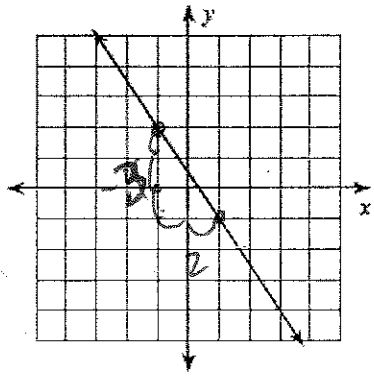
9. The function p(x) = -3x + 100 represents a student's lunch account balance as a function of the number of lunches spent. What is the zero of the function and what does it represent?

[redacted]

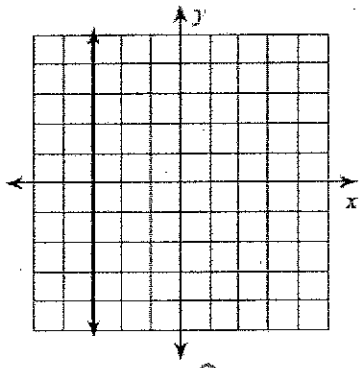
10. What is the slope of the given lines?



a)



b)



c)

[redacted]

10. graph the function g(x) = 0.5x –2 using the domain : {-2,-1,0,1,2}

[redacted]

11. Does the following situation model a direct variation linear function? Graph the function.

The number of toys shipped on a particular order is three times larger than the number of crates used to ship the order.

[redacted]

12. If y varies directly as x, and $y = 12$ when $x = 18$, find x when $y = -16$ and write the direct variation form of the linear function.

[redacted]

13. Identify each linear function as proportional or not-proportional and then write the equation of the line in function notation.

[redacted]

14. Given the sequence: $-5, -2, 1, 4, \ldots$

a) Determine if the sequence represents an arithmetic sequence and explain how you know.

[redacted]

b) What are the next 3 terms of the sequence?

c) What is the rule for this sequence using sequence notation and find the 50^{th} term.

[redacted]

d) Would it be possible for the sequence to have a term value of 75? Show how you answered this using algebra.

[redacted]