Name: _____ **Class:** _____ **Date:** _____ **ID: A**

2018 Algebra 1 Midterm Sample of Practice Problems (Clearly show work for full credits)

1. **Know this vocabulary**: solve,equation, solution, inequality, simplify, evaluate, expression, factors, terms, like terms, constants, coefficient, degree, proportion, absolute value, function, verical line test, function notation, f(x), domain, range, input, output, integers, opposite, reciprocal; slope-intercept, point-slope, standard and function form of linear equations.

2. **Write the numbers in increasing order.** $-\sqrt{28},\ -7,\ -\frac{38}{5},\ -6.5$

3. **Find the quotient.** $\frac{7}{15} \div \frac{1}{5}$

4. **Simplify and write in standard form.** $5(3 - x) - 6 - x$

5. The cost of a taxi ride is given by $C = rd + a$,
   where r is the rate per mile,
   d is the trip distance in terms of the number mile in the trip, and
   a is an automatic charge created when the meter is started.
   Solve the equation for the mileage rate r.

6. Ben bowls for 30 minutes and burns 75 calories.
   How many calories will Ben burn in 100 minutes of bowling?

   Write a proportion to solve this problem.

7. ***Write an appropriate equation OR proportion; then solve.***

   What percent of 600 cars is750 cars?

8. ***Write an appropriate equation OR proportion; then solve.***

   What is 5% of 220 miles?

Source: ExamView Test Builder

9. **Solve** $-6 \le 3x - 15 \le 12.$

   Graph your solution.

10. **Solve.** $2x - 6 < -16$ or $-13x < 26$

    Graph your solution.

11. **Solve** $15 - |x - 10| = 10$

    Don't forget to check.

12. **Write the slope-intercept linear equation.**

    Through
    (3, 1), (-3, 5)

13. Is the line $y = 7x + 6$. parallel to the line $y = -\frac{1}{7}x - 6$?

    Explain why.

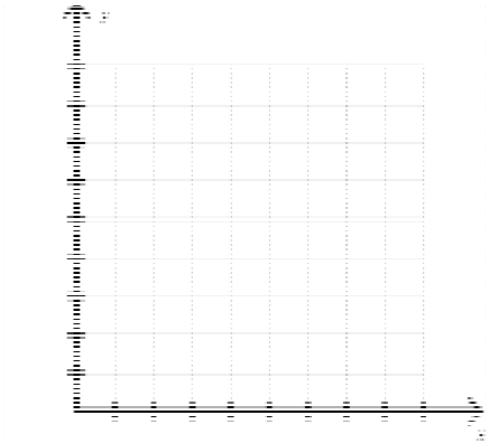
14. **Write an equation of a line that is perpedicular**
    to $y = \frac{-2}{3}x + 6$
    and passes through (4, 10).

15. Evaluate the function $f(x) = -5x + 10$ for
    f(-1)= f(0)= f (1)=

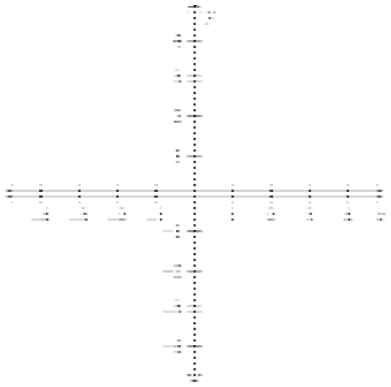
16. Does the following data represent wind speed as a function of lift? Explain why.

wind speed (mi/h)	10	20	20	40
lift (ft/s)	4.6	22	40	32

17. For 1980 through 1990, Brentwood Middle School's enrollment, y, was related to the year, t, by the equation $\boldsymbol{y - 20t - 240 = 0}$, where $t = 0$ represents 1980. Sketch the graph of this equation.

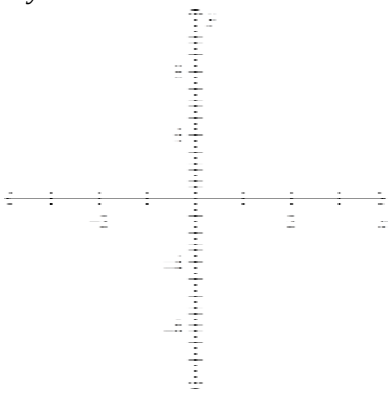


18. Create a **TABLE (using only intergers)** to graph the function $f(x) = \frac{-2}{3}x + 1$.

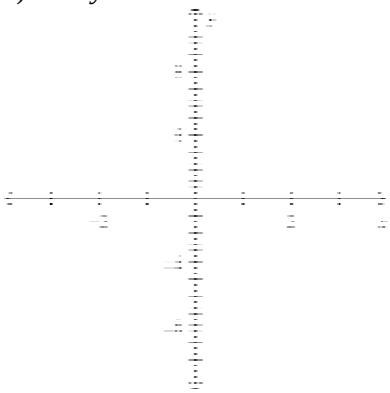


19. Use slope-intercept method to graph. Label the yintercept. Show how to use slop to plot 2 additional points.

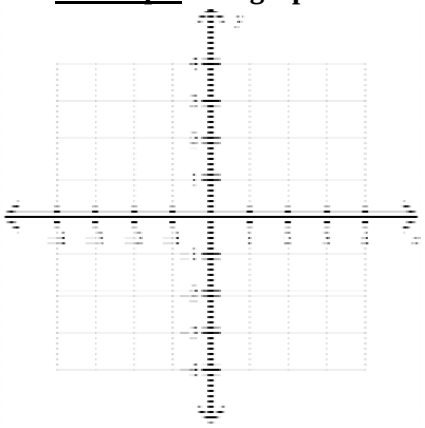
a) $3x - 4y = 4$



b) $x - y = 8$

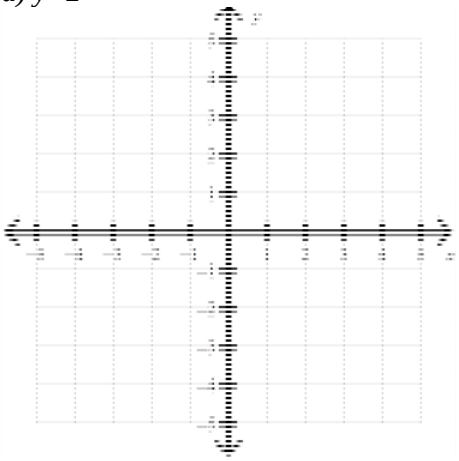


20. **Use <u>Intercepts</u> to a graph of the function** $2x - 3y = 6$. ***Label graph with X and Y***



21. Graph using any method. Then explain if the graph is a function.

a) y=2



b) x=-3