

Name: _____
Date: _____
Class: _____

Algebra
Unit 3
PS

1) [3] If Steve ran 17 miles in 2.5 hours on Monday, how long (to the nearest minute) will it take him to run 15 miles on Tuesday if he runs at the same pace?

2) [4] Explain if the following 3 coordinates could be represented by a linear equation:
(7, 2), (12, 9), (-8, -18).

3) [3] What would the slope of a line perpendicular to a line passing through (-2, -7) and (-7, -4) be?

4) [4] If a line is parallel to $3x - 4y = 16$ and passes through (7, 2), find and explain the coordinates of another point that could be on this new line.

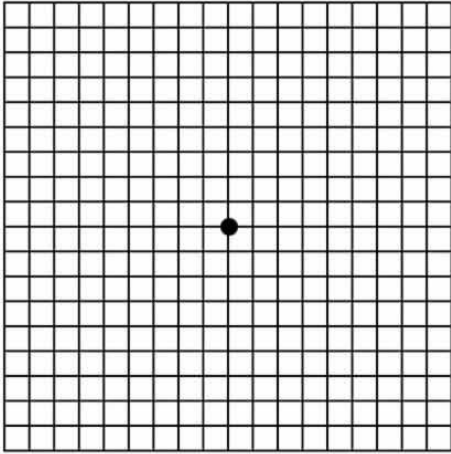
5) [2] What is the equation of a line passing through (5, 7) and (5, -10)

6) [4] If there is 2 inches of snow after 4 hours and 7 inches of snow after 12 hours, create an equation that could model this using x as hours and y as inches of snow.

7) [2] What is the x intercept of the equation $7y - 4x + 6 = 0$?

8) [4] Graph both equations and find the point of intersection if it exists:

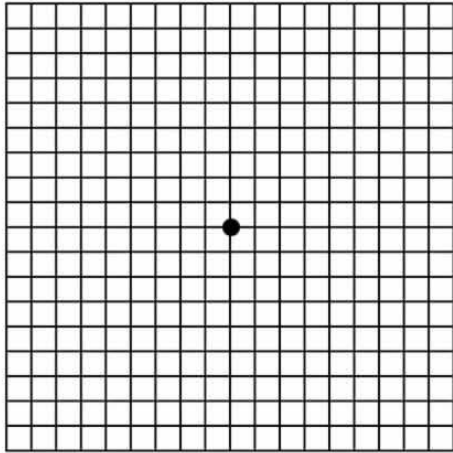
$$2y - 3x - 11 = 0 \quad 6x + 2y = -2$$



9) [3] Find the equation of a line parallel to $4x + 3y = 17$ passing through $(1, 2)$

10) [3] If 22 pens cost \$7.25 find an equation that would relate the cost (c) to the number of pens purchased (p).

11) [4] Francisco is saving money by putting it into a savings account. At the beginning of the year he has \$56 and puts \$4 in per week. Write an equation that shows his savings (s) as it relates the number of weeks (w) he has been saving for and then draw a graph of this equation.

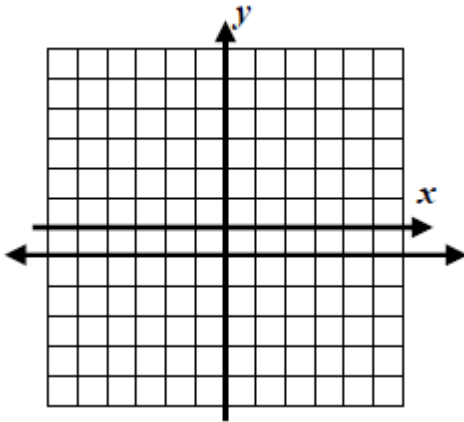


12) [4] Jim keeps track of how many fish are in his pond each year. He has the following measurements over time $(3, 1700)$, $(5, 1580)$, $(15, 1230)$. Could he create a linear equation to represent the number of fish (f) by the number of years that have passed (y)? If so create the equation.

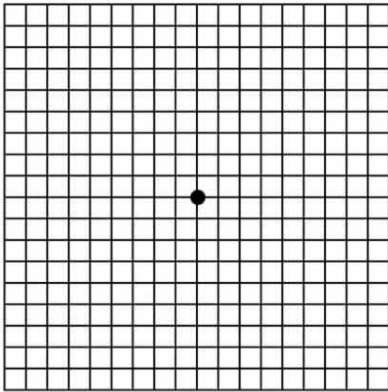
13) [4] You are driving a car, after 2 hours there are 2.25 gallons of gas gone from the tank. After 5 hours there are 7.5 gallons of gas in the tank. Create a linear equation that would model the amount of gas (y) in the tank based on the number of hours (x) you have been driving.

14) [3] Using your equation from #13, if the tank is 15 gallons when full, how many hours can you drive for?

15) [2] If you are asked to graph $x = -1$ on the x-y axis and arrive at the following, are you correct? Explain.



16) [3] Graph $3x - 2y \geq 8$ and list 2 points that are in the solution set. Would a point on the line be a solution?



17) Graph $x < 3$ on the x - y axis.

