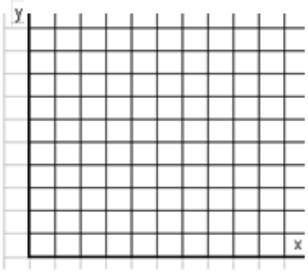
Algebra 1 Homework – 4-1 and 4-2

Name:_____ **Date:**_____ **Block:**_____

1) Elijah is using a rowing machine. The table shows how many Calories he can burn for certain lengths of time.

Time (min)	Calories
2	24
4	48
6	72
8	96
10	120



Do these ordered pairs satisfy a linear function? Explain.

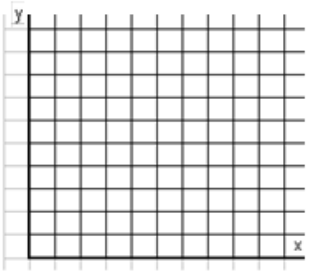
2) Tell whether each function is linear. Explain.

a) $2y = -3x^2$

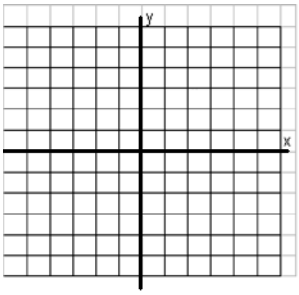
b) $y = 4x - 7$

3) Which set of ordered pairs satisfies a linear function? Explain.

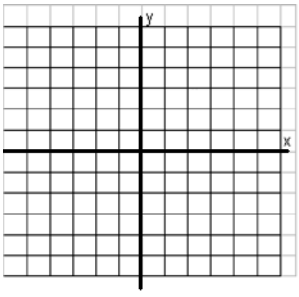
Set A: {(5, 1), (4, 4), (3, 9)}



Set B: {(1, −5), (2, −3), (3, −1), (4, 1), (5, 3)}



Set C: {(2, 6), (3, 4), (4, 2), (5, 0)}



4) Naima has \$40 to spend on refreshments for herself and her friends at the movie theater. The equation $5x + 2y = 40$ describes the number of large popcorns x and small drinks y she can buy. Find the intercepts and interpret their meanings.

5) Turner is reading a 400-page book. He reads 4 pages every 5 minutes. The number of pages Turner has left to read after x minutes is represented by the function $f(x) = 400 - \frac{4}{5}x$. Find the intercepts and interpret their meanings.

6) At a fair, hamburgers sell for \$3.00 each and hot dogs sell for \$1.50 each. The equation $3x + 1.5y = 30$ describes the number of hamburgers and hot dogs a family can buy with \$30. Find the intercepts and interpret their meanings.

7) The change in water level of one portion of the Mississippi River is about -0.3 ft per day. If the water level starts at 17 feet and falls for x days, the level is represented by the function $f(x) = 17 - 0.3x$. Find the intercepts and interpret their meanings.