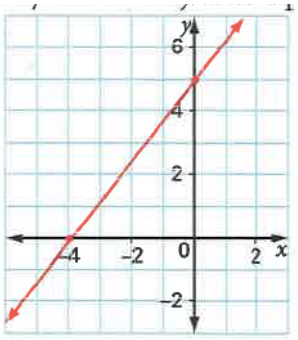
6.3 Graphing Using Intercepts Worksheet #2

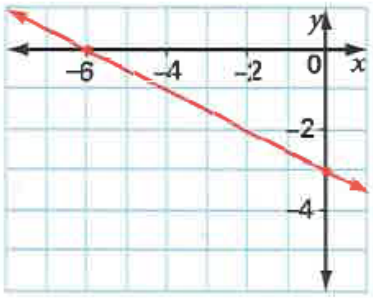
Math 9
Jensen

1. Identify the x- and y-intercepts of each graph.

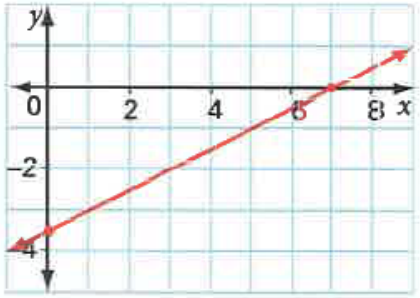
a)



b)

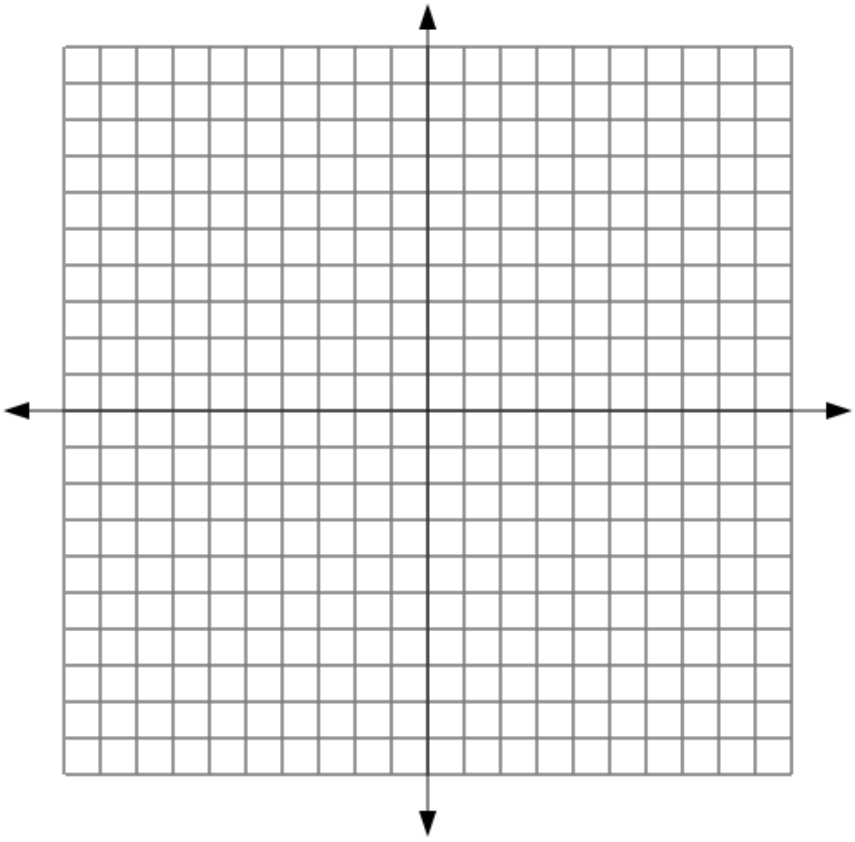


c)



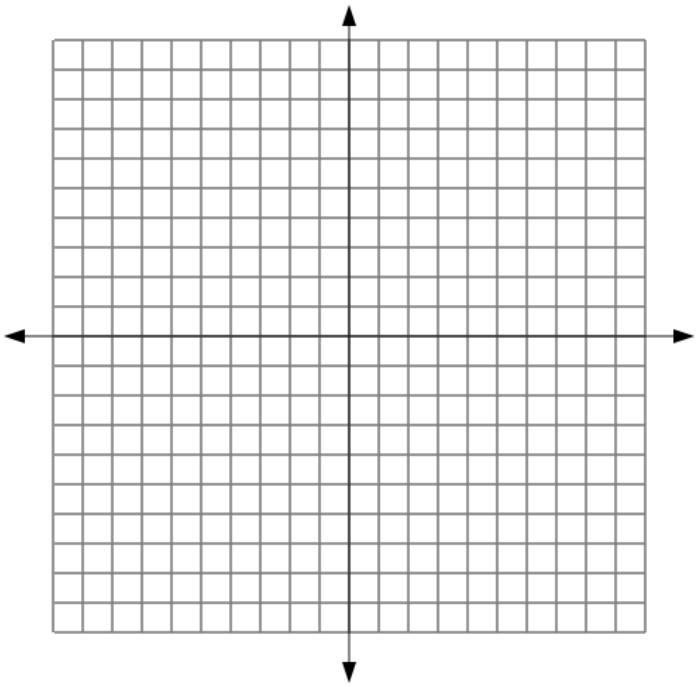
2. For each of the following, plot the intercepts and graph the line.

	x-intercept	y-intercept
a)	4	7
b)	-3	1
c)	1	-4
d)	-5.5	-2

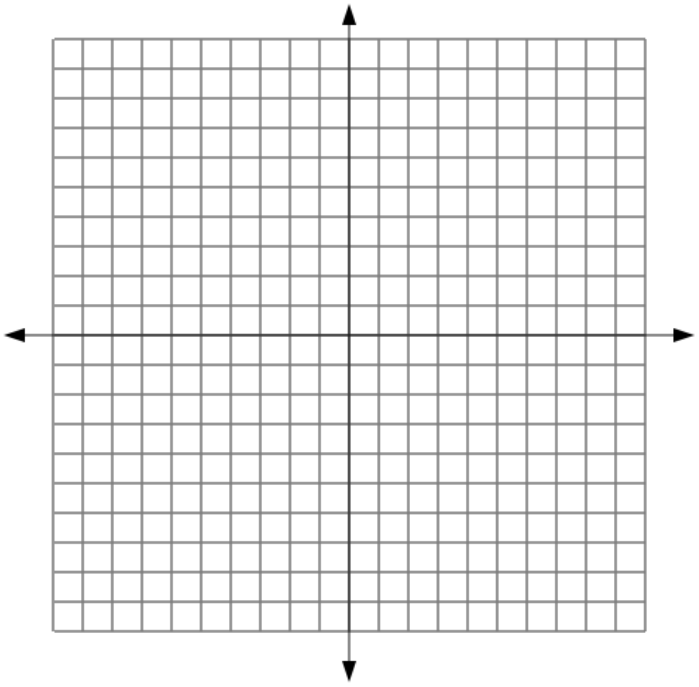


3. Determine the x- and y-intercepts and use them to graph each line.

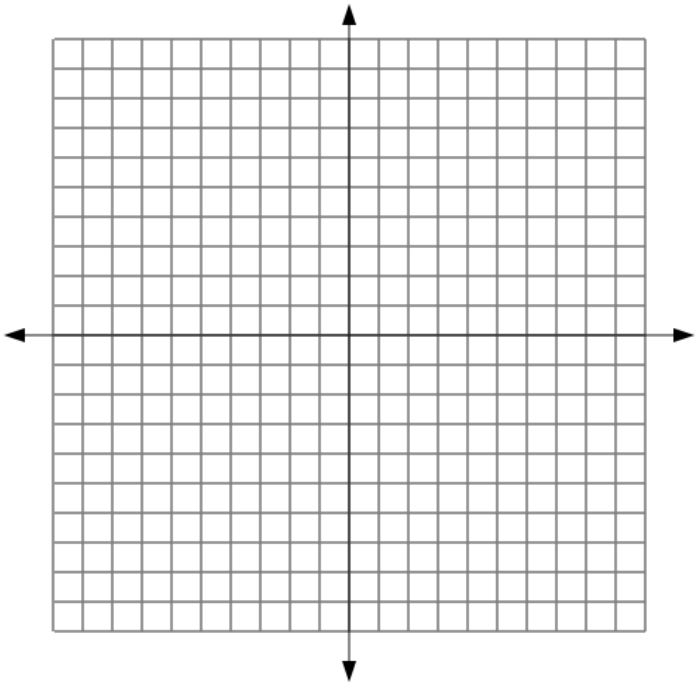
a) $2x + 5y = 10$



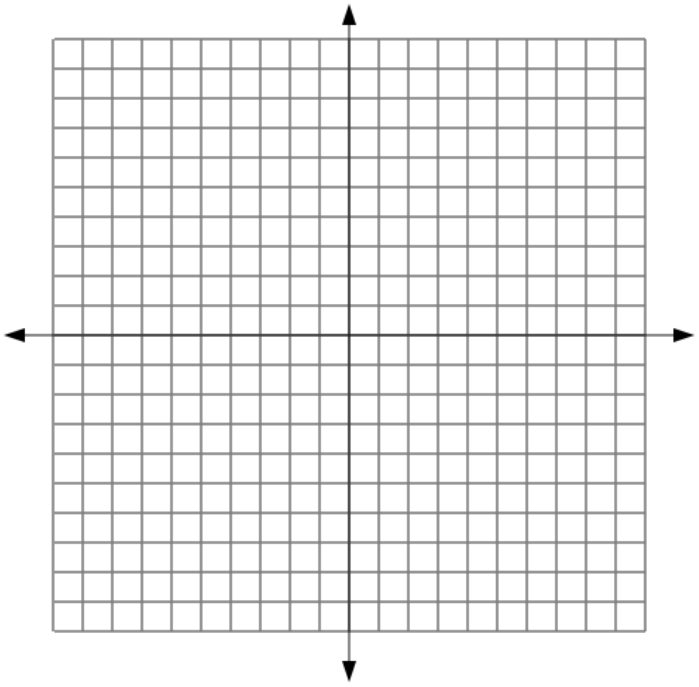
b) $-2x - 3y = 12$



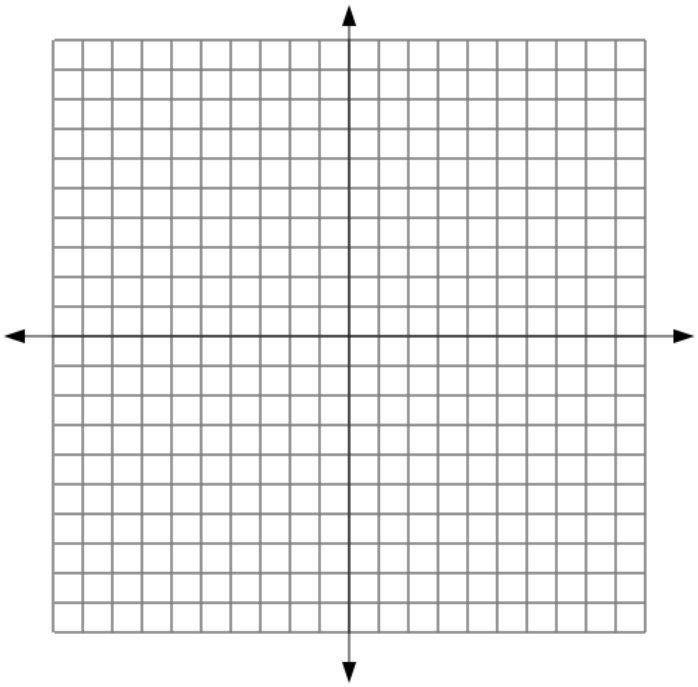
c) $3x + 6y = -9$



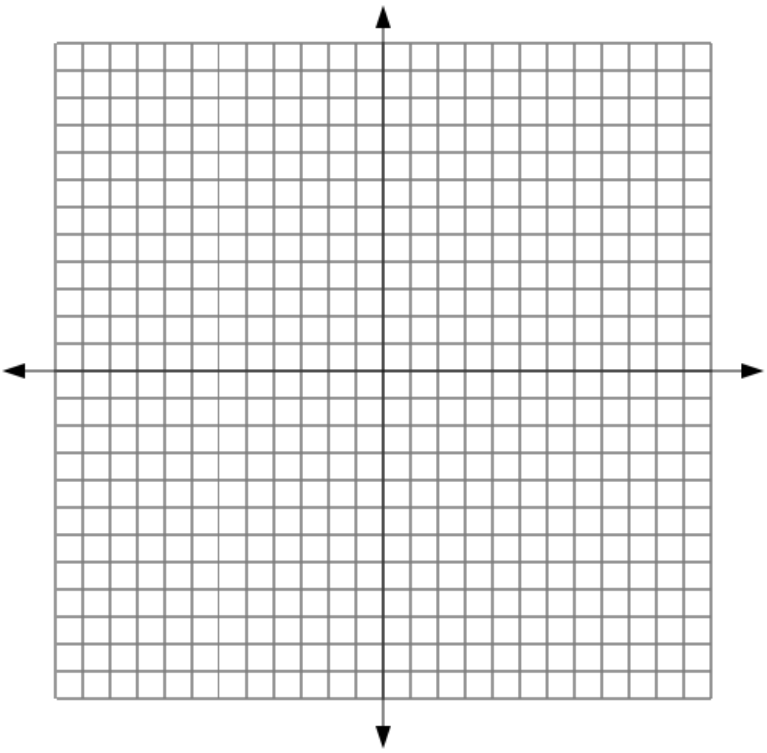
d) $4x - y = 6$



e) $3y - 7x = 21$

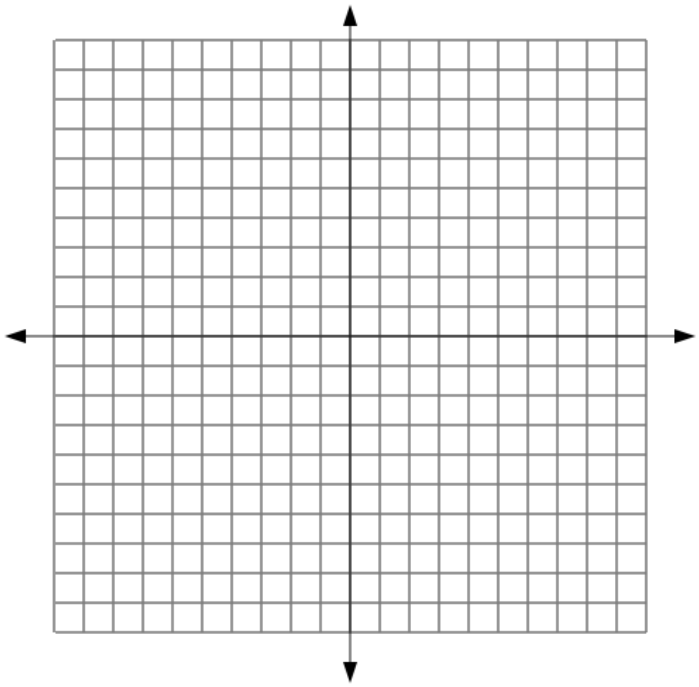


f) $y - x = 11$

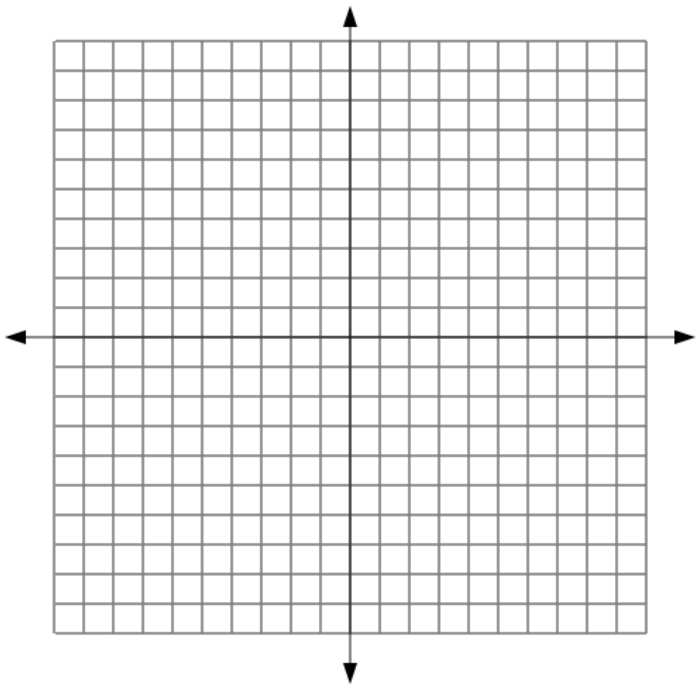


4. Draw a graph and determine the slope of each line whose x- and y-intercepts are given.

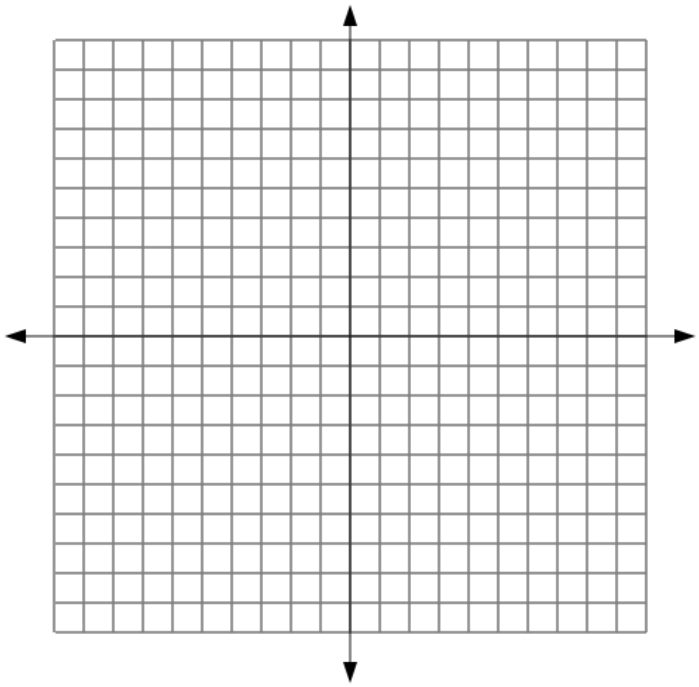
a) x-intercept = 2; y-intercept = 4



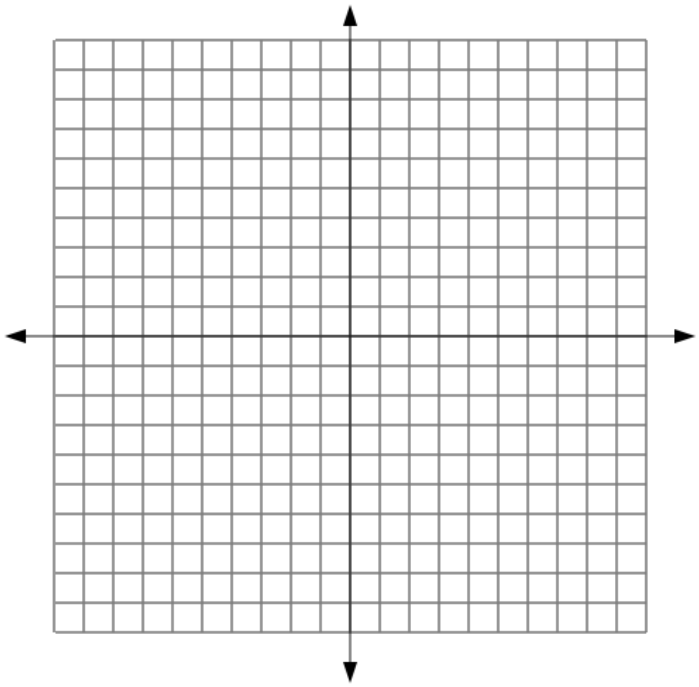
b) x-intercept = -3; y-intercept = 5



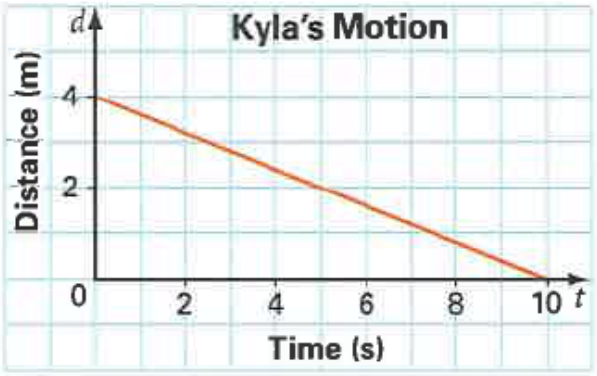
c) x-intercept = 6; y-intercept = -3



d) no x-intercept; y-intercept = 3



5. The distance-time graph shows Kyla's motion in front of a motion sensor.



a) What is the d-intercept?

b) What is the t-intercept?

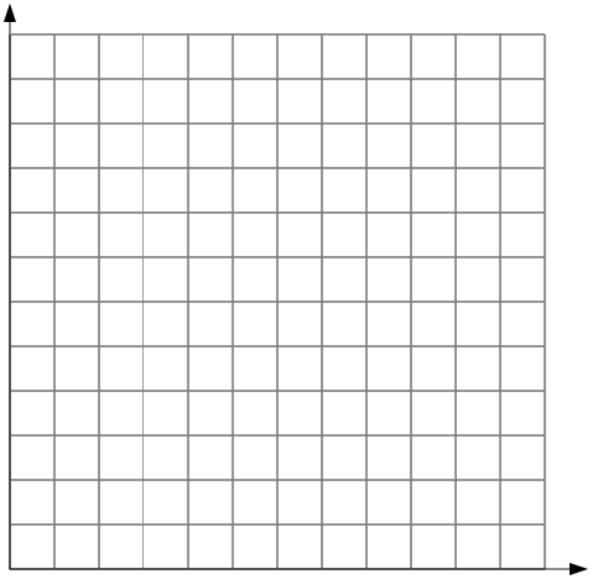
c) What information does each intercept give about Kyla's motion?

d) Use the graph or the slope formula to determine Kyla's speed. Remember the speed is the slope on a distance-time graph.

6. A candle burns at a constant rate of 2 cm/h. The candle is 12 cm tall when it is first lit.

a) State the dependent and the independent variables.

b) Set up a graph of length, l, in centimeters versus time, t, in hours.



c) Plot points to represent the length of candle remaining after 0, 1, 2 hours.

d) Join the points and extend the line so that it crosses the t-axis.

e) What is the $l - intercept$? What information does it give?

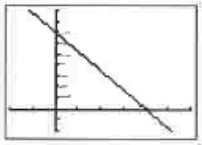
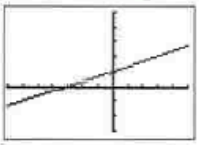
f) What is the $t - intercept$? What information does it give?

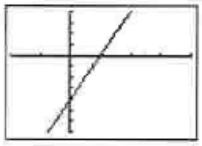
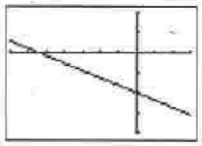
g) Why does this linear model have no meaning below the t-axis?

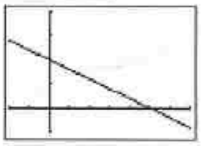
h) Why does this linear model have no meaning to the left of the l-axis?

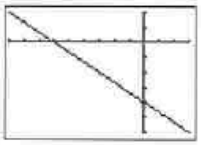
Answers

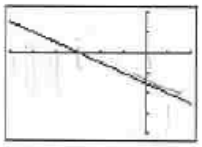
1. a) x-intercept -4, y-intercept 5 **b)** x-intercept -6, y-intercept -3 **c)** x-intercept 7, y-intercept -3.5

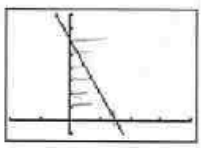
2. a)  **b)** 

c)  **d)** 

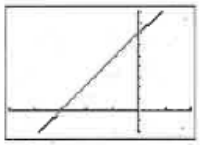
3. a) x-intercept 5, y-intercept 2 

b) x-intercept -6, y-intercept -4 

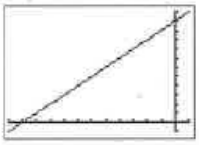
c) x-intercept -3, y-intercept $-\frac{3}{2}$ 

d) x-intercept $\frac{3}{2}$, y-intercept 6 

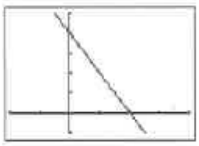
e) x-intercept -3, y-intercept 7



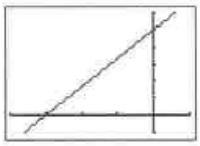
f) x-intercept -11, y-intercept 11



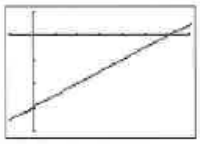
4. a) -2



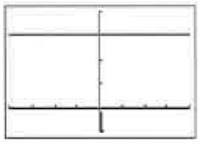
b) $\frac{5}{3}$



c) $\frac{1}{2}$



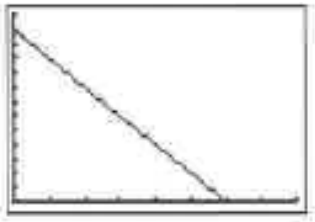
d) 0



5. a) 4 b) 10 c) Kyla started at 4 m and finished in 10 s.
d) 0.4 m/s

6. a) independent – time; dependent – length

b)



e) The l-intercept at 12 cm tells us that the candle started at that length at 0 s.

f) The t-intercept at 6 h tells us that the candle burned out at that time.

g) There is no meaning below the t-axis because the lowest the candle can burn to is 0 cm.

h) There is no meaning to the left of the l-axis because time is always positive.