**FOM 10**

**\*Chapter 4 - Linear Functions PRACTICE Unit Test /30**

m equals the fraction with numerator y sub 2 minus y sub 1 and denominator x sub 2 minus x sub 1

\*circle final answers

1. Determine the **slope** of the following graphs (1 mark each):
   1.  b.

m = \_\_\_\_\_\_\_\_\_\_ m = \_\_\_\_\_\_\_\_\_\_\_

1. Find the slope of the line containing each pair of points (1 mark each):
   1. b.
2. Determine the x-intercept and y-intercept of the linear equation with slope going through the point . (2 marks)

*x* – intercept:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*y* – intercept:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Draw a line with a slope of *m = undefined* that has a x-intercept of 5 (1 mark).



1. Draw a line with a slope of *m =* 0 and has a y-intercept of (1 mark).



1. Find a number *n* so that the line passing through the points has a slope of 3 (2 marks).
2. Determine whether Line 1, passing through the first pair of points, is **parallel, perpendicular** or **neither** to Line 2, passing through the second pair of points (3 marks):

Line 1 through and , Line 2 through and

1. Find the slope of a line that is **perpendicular** to a line that passes through

and (2 marks).

1. Show that the points A , B and C are vertices of a right triangle. (3 marks)



1. The line through and is **parallel** to a line with slope . Find the value of . (2 marks)
2. Given the following graphs, determine the **rate of change**: (2 marks each)

 a.

Rate of change:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



b.

Rate of change:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A **3** **year old** car is worth $24750, and will be worth $4650 when it is

**18 years old**. (\* Assume relationship is LINEAR)

* 1. Write the equation that shows the **V**alue of the car (***V***) depends on the **d**epreciation *rate* (**d**), the **n**umber of years old it is (***n***), and the value of the car when it was new, or the **i**nitial value (**i**) (1 mark)
  2. Find the yearly depreciation of the car (rate of change). (1 mark)
  3. Find the price of the car when it was new (the initial value, or *i*). (1 mark)
  4. What is the linear equation that describes this relation, and what is the **Value of the car** when it is **11 years old**. (2 mark)
  5. **After how many years** will the cars’ value be **$19,390**? (1 mark)