**FOM 10**

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



 \*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. $\left(2, 1\right) and (5, 6)$ b. $\left(-4, 1\right) and (-2, -5)$
2. Determine the x-intercept and y-intercept of the linear equation with slope $m= -\frac{1}{3}$ going through the point $(3, -3)$. (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 $-4$ (1 mark).



1. Find a number *n* so that the line passing through the points $(n, 8) and (-2, -4)$ 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 $(4, -1)$ and $(6, 2)$ , Line 2 through $\left(-6, -6\right) $and $(4, 9)$

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

$(-5, 1)$ and $(4, -2)$ (2 marks).

1. Show that the points A$(1 ,3)$ , B$(4, -3)$ and C$(0, -5)$ are vertices of a right triangle. (3 marks)



1. The line through $(-6, y)$ and $(2, -5)$ is **parallel** to a line with slope $\frac{-5}{4}$. Find the value of $y$. (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)