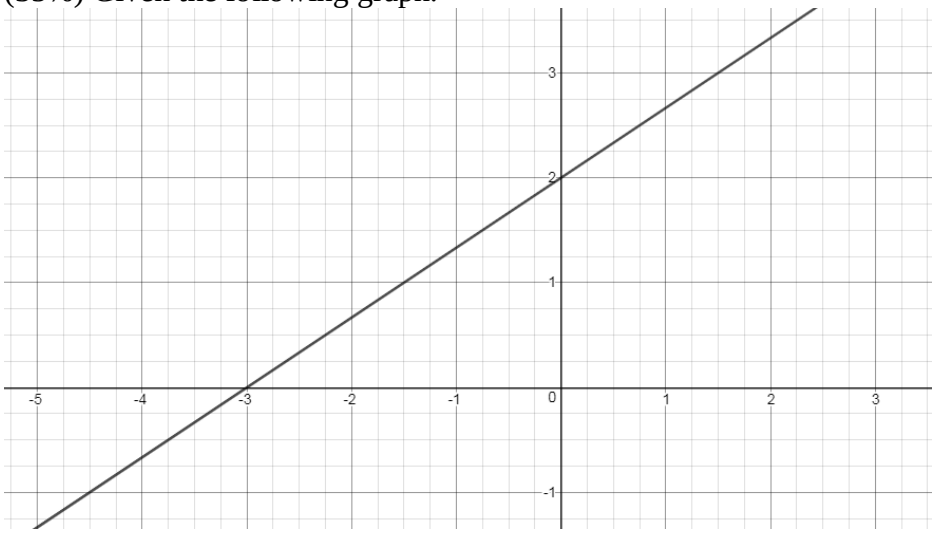
Name:

QUIZ – MATH GRADE 11 IB SL

1. (35%) Given the following graph:



   a. (10%) Find the equation of the linear function.

   b. (15%) Find the equation of the perpendicular linear function passing through the point (-1, 3) and sketch it on the graph.

   c. (10%) Find the equation of the perpendicular linear function passing through the origin and sketch it on the graph.

2. (34%) Given the line L_1 with equation $2x + 3y = 24$. L_1 cuts the x-axis at A and cuts the y-axis at B.

   a. (4%) Write down the coordinates of A and B.

M is the midpoint of the line segment [AB].

   b. (4%) Write down the coordinates of M.

The line L_2 passes through the point M and the point (3, 0).

   c. (8%) Find the equation of L_2.

   d. (8%) D is the y intercept of L_2. Find the length of AD

   e. (5%) C is the x intercept of L_2. Find the area of the triangle OCD.

   f. (5%) Point F (k, –2) is on the line AB. Find k and sketch the point on the diagram.

3. (31%) Phone company A charges a call set up charge of 10 cents and 4 cents per minute for the call. Phone company B charges a call set up charge of 20 cents and 2 cents per minute for the call.

    a. (8%) Write the functions for both companies to describe the Charge C(t) where t is the length of the call as a function of the time t in minutes. Indicate the Domain and Range in each case.

    b. (8%) Sketch the functions, find and indicate the coordinates of all the important points on graph (choose appropriate scale, **provide all info** on the graph etc.). Use the diagram provided in the next page.

    c. (6%) Juan is a client of company a. He paid 1$ for a certain call. How long was the call?

    d. (9%) Explain which company is better in which cases.