BECA / Dr. Huson / IB Mathematics 1
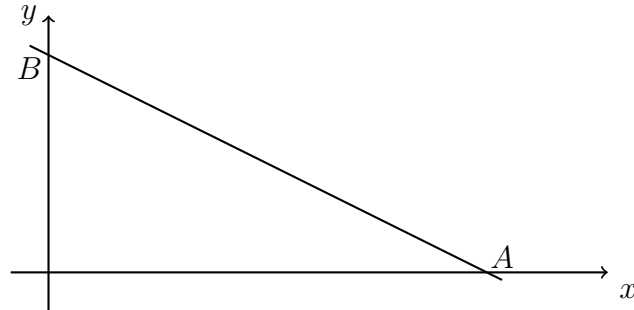Unit 4: Linear functions and regression   Name:
13 January 2020

4.9 Do Now Quiz: Function operations, Linear equations

1. The diagram shows the straight line L_1, which intersects the x-axis at $A(k,0)$ and the y-axis at $B(0,8)$. The gradient of L_1 is $-\frac{2}{3}$.   *Diagram is not to scale*

(a) Find the value of k.   [2 points]

(b) Find the midpoint M of A and B.   [2 points]

(c) Write down the equation for the line L_1.   [2 points]

(d) The line L_2 is perpendicular to L_1 and passes through M.   [3 points]

Find the equation for the line L_2.
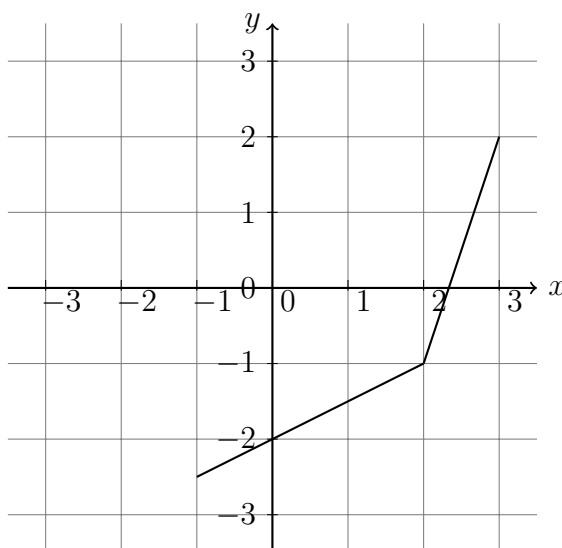
2. Let $f(x) = 8x + 3$ and $g(x) = 4x$, for $x \in R$.

    (a) Write down $g(2)$.   [1 point]

    (b) Find $(f \circ g)(x)$.   [2 points]

    (c) Find $f^{-1}(x)$.   [2 points]

3. Spicy: The diagram below shows the graph of a function f for $-1 \leq x \leq 3$.

    (a) Write down the value of $f(2)$.   [1 point]

    (b) Write down the value of $f^{-1}(-2)$.   [2 points]

    (c) Sketch the graph of f^{-1} on the grid.   [3 points]

Solutions