

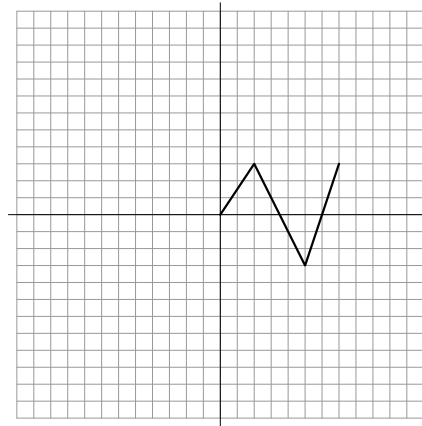
# Practice Quiz 3

MTH U121

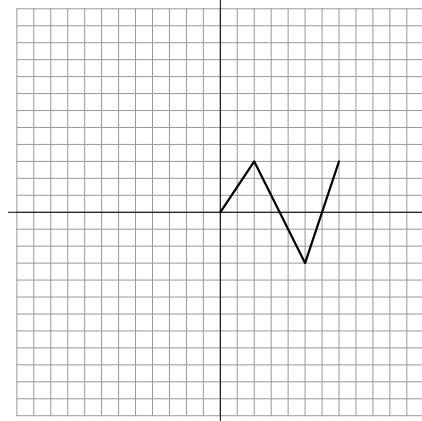
Page 1

\_\_\_\_\_  
Name

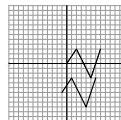
1. Evaluate  $f\left(\frac{4}{7}\right)$  for the function  $f(x) = 4 + \frac{7x}{2 - 8x}$ . Give your answer as a reduced fraction.
2. Simplify the difference quotient,  $\frac{f(a+h) - f(a)}{h}$  for the function  $f(x) = 5x^2 + 6x + 9$ .
3. Calculate the average rate of change between  $x = 5$  and  $x = 10$  for the function  $f(x) = 7x^2 - 3x - 4$ .
4. The sketches below show the graph of a piecewise linear function  $y = f(x)$ .
  - i) What is the value of  $f(5) =$
  - ii) Find the average rate of change from  $x = 0$  to  $x = 7$ .
  - iii) Add to the graph the sketch of  $y = f(x + 1) - 6$

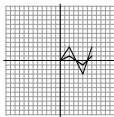


- iv) Add to the graph the sketch of  $y = \frac{1}{3} \cdot f(x)$



ANS: 1)  $\frac{22}{9}$ ; 2)  $10a + 5h + 6$ ; 3) 102; 4i)  $-3$ , ii)  $\frac{3}{7}$ , iii)



iv)  ;

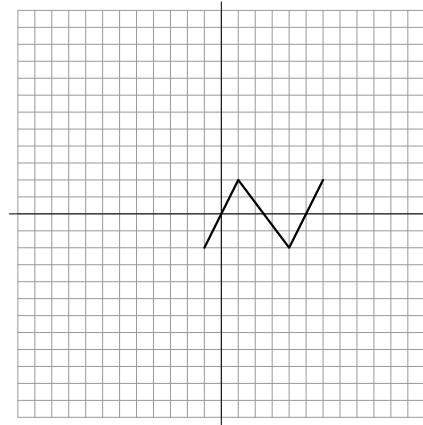
# Practice Quiz 3

MTH U121

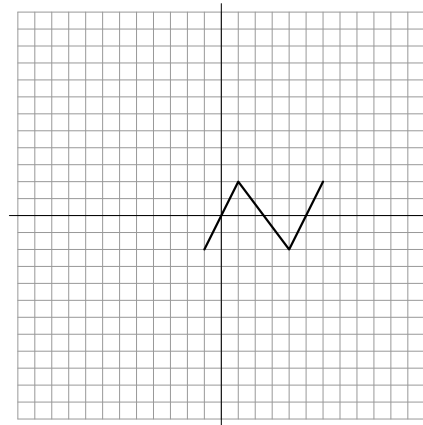
Page 2

\_\_\_\_\_ Name

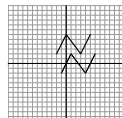
5. Evaluate  $f\left(\frac{9}{8}\right)$  for the function  $f(x) = 6 + \frac{5x}{8 - 9x}$ . Give your answer as a reduced fraction.
6. Simplify the difference quotient,  $\frac{f(a+h) - f(a)}{h}$  for the function  $f(x) = 3x^2 + x + 6$ .
7. Calculate the average rate of change between  $x = 5$  and  $x = 10$  for the function  $f(x) = 9x^2 - 8x + 7$ .
8. The sketches below show the graph of a piecewise linear function  $y = f(x)$ .
  - i) What is the value of  $f(4) =$
  - ii) Find the average rate of change from  $x = -1$  to  $x = 6$ .
  - iii) Add to the graph the sketch of  $y = f(x + 1) + 4$

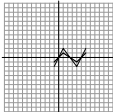


- iv) Add to the graph the sketch of  $y = \frac{1}{2} \cdot f(x)$



ANS: 5)  $\frac{57}{17}$ ; 6)  $6a + 3h + 1$ ; 7) 127; 8i) -2, ii)  $\frac{4}{7}$ , iii)



iv)  ;