

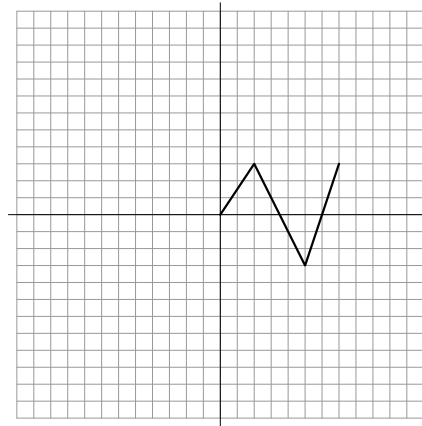
Practice Quiz 3

MTH U121

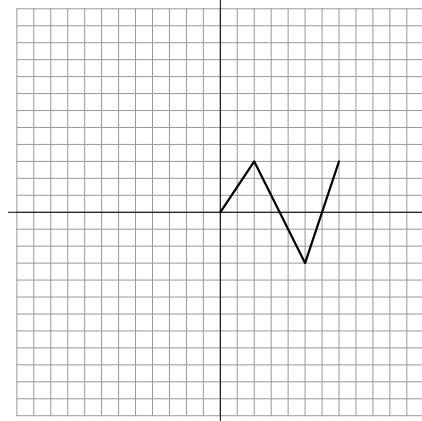
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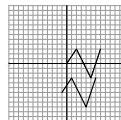
1. Evaluate $f\left(\frac{4}{7}\right)$ for the function $f(x) = 4 + \frac{7x}{2 - 8x}$. Give your answer as a reduced fraction.
2. Simplify the difference quotient, $\frac{f(a+h) - f(a)}{h}$ for the function $f(x) = 5x^2 + 6x + 9$.
3. Calculate the average rate of change between $x = 5$ and $x = 10$ 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 $y = f(x + 1) - 6$

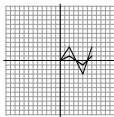


- iv) Add to the graph the sketch of $y = \frac{1}{3} \cdot f(x)$



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



iv)  ;

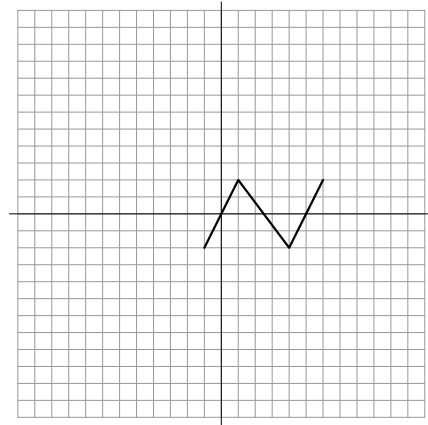
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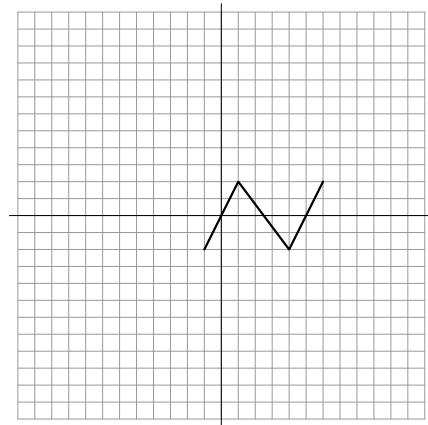
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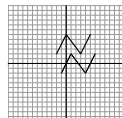
5. Evaluate $f\left(\frac{9}{8}\right)$ for the function $f(x) = 6 + \frac{5x}{8 - 9x}$. Give your answer as a reduced fraction.
6. Simplify the difference quotient, $\frac{f(a+h) - f(a)}{h}$ for the function $f(x) = 3x^2 + x + 6$.
7. Calculate the average rate of change between $x = 5$ and $x = 10$ 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 $y = f(x + 1) + 4$

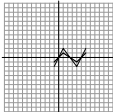


- iv) Add to the graph the sketch of $y = \frac{1}{2} \cdot f(x)$



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



iv)  ;