Name

Average Rate of Change - Function and X-Coordinate plus Delta to Slope Expression

1 Write the expression for the average rate of change of this function from this x-value over an interval of width h.

$$f(x) = 3x$$
$$f(1) = ?$$
$$f(1+h) = ?$$

A $\dfrac{h}{3(1+h)-3}$

B $\dfrac{3(1+h)-3}{h}$

C $\dfrac{3(1+h)-3}{1}$

D $\dfrac{3-3(1+h)}{h}$

2 Write the expression for the average rate of change of this function from this x-value over an interval of width h.

$$f(x) = 2x^2$$
$$f(1) = ?$$
$$f(1+h) = ?$$

A $\dfrac{2(1+h)^2-2}{h}$

B $\dfrac{2(1+h)^2-2}{1}$

C $\dfrac{h}{2(1+h)^2-2}$

D $\dfrac{2-2(1+h)^2}{h}$

3 Write the expression for the average rate of change of this function from this x-value over an interval of width h.

$$f(x) = x^2$$
$$f(1) = ?$$
$$f(1+h) = ?$$

A $\dfrac{(1+h)^2-1}{h}$

B $\dfrac{h}{(1+h)^2-1}$

C $\dfrac{1-(1+h)^2}{h}$

D $\dfrac{(1+h)^2-1}{1}$

4 Write the expression for the average rate of change of this function from this x-value over an interval of width h.

$$f(x) = 2x-1$$
$$f(1) = ?$$
$$f(1+h) = ?$$

A $\dfrac{2(1+h)-1-1}{1}$

B $\dfrac{h}{2(1+h)-1-1}$

C $\dfrac{1-2(1+h)-1}{h}$

D $\dfrac{2(1+h)-1-1}{h}$

5 Write the expression for the average rate of change of this function from this x-value over an interval of width h.

$$f(x) = 3x-1$$
$$f(2) = ?$$
$$f(2+h) = ?$$

A $\dfrac{h}{3(2+h)-1-5}$

B $\dfrac{3(2+h)-1-5}{h}$

C $\dfrac{3(2+h)-1-5}{2}$

D $\dfrac{5-3(2+h)-1}{h}$

6 Write the expression for the average rate of change of this function from this x-value over an interval of width h.

$$f(x) = 3x+2$$
$$f(0) = ?$$
$$f(0+h) = ?$$

A $\dfrac{2-3(0+h)+2}{h}$

B $\dfrac{3(0+h)+2-2}{0}$

C $\dfrac{3(0+h)+2-2}{h}$

D $\dfrac{h}{3(0+h)+2-2}$

7 Write the expression for the average rate of change of this function from this x-value over an interval of width h.

$$f(x) = 2x+3$$
$$f(-1) = ?$$
$$f(-1+h) = ?$$

A $\dfrac{2(-1+h)+3-1}{-1}$

B $\dfrac{2(-1+h)+3-1}{h}$

C $\dfrac{h}{2(-1+h)+3-1}$

D $\dfrac{1-2(-1+h)+3}{h}$

8 Write the expression for the average rate of change of this function from this x-value over an interval of width h.

$$f(x) = 2x-1$$
$$f(-1) = ?$$
$$f(-1+h) = ?$$

A $\dfrac{2(-1+h)-1-(-3)}{h}$

B $\dfrac{h}{2(-1+h)-1-(-3)}$

C $\dfrac{(-3)-2(-1+h)-1}{h}$

D $\dfrac{2(-1+h)-1-(-3)}{-1}$