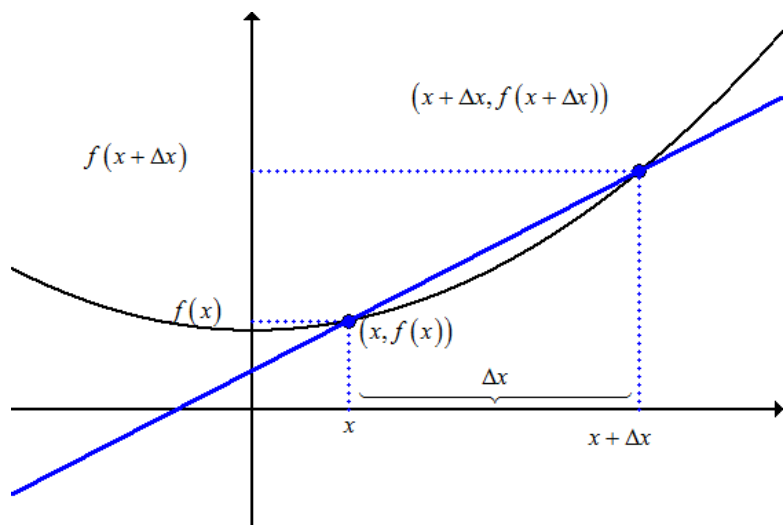


## Cypress College Math Review: Difference Quotients



A secant line is a line through two points on a curve.

$\Delta x$  is a change in  $x$

Example)  $f(x) = 5x - 7$

Example)  $f(x) = 3x^2 - 2x + 3$

Example)  $f(x) = \frac{3}{x}$

Extra Practice – Try these on your own, then check with the answers below.

1.  $f(x) = 2x + 4$

2.  $f(x) = -5x^2 + 2x + 6$

3.  $f(x) = \frac{-2}{x}$

Answers

1.  $\frac{f(x+h) - f(x)}{h} = 2, h \neq 0$

2.  $\frac{f(x+h) - f(x)}{h} = -10x - 5h + 2, h \neq 0$

3.  $\frac{f(x+h) - f(x)}{h} = \frac{2}{x(x+h)}, h \neq 0$