

2.1 Average Rate of Change

Calculus

Name: _____

CA #1

Find the average rate of change for each function on the given interval. Use appropriate units.

1. $s(t) = t^2 - 5t + 4$; $[-1, 3]$
 t represents minutes
 s represents meters

2. $p(h) = h - h^3$; $[-3, -2]$
 p represents people
 h represents hours

3. $b(w) = w + 2^w$; $[-1, 2]$
 w represents window panes
 b represents cleaning bottles

Find the equation of the secant line on the given interval. Put the equation in slope-intercept form.

4. $a(t) = -16t^2 + 10t$; $[1, 2]$

5. $f(x) = \frac{1}{x-2}$; $[0, 3]$

6. $h(t) = \cos 5t$; $[\frac{\pi}{10}, \frac{\pi}{5}]$

Using the interval $[x, x + h]$, find the expression that represents the slope of the secant line.

7. $f(x) = 2x^2 + 3x - 4$

8. $f(x) = \sqrt{3x}$

9. $f(x) = 5x - x^2$

10. $f(x) = \frac{1}{3x}$

Answers to 2.1 CA #1

1. -3 meters per minute	2. -18 people per hour	3. $\frac{13}{6}$ bottles per window pane	4. $y = -38x + 32$	5. $y = \frac{1}{2}x - \frac{1}{2}$
6. $y = -\frac{10}{\pi}x + 1$	7. $4x + 2h + 3$	8. $\frac{3}{\sqrt{3x+3h}+\sqrt{3x}}$	9. $5 - 2x - h$	10. $-\frac{1}{3x(x+h)}$