

1.2 Rates of Change

AP Precalculus

Name: _____

CA #1

Find the average rate of change of the function on the given interval.

1. $f(x) = \sqrt{5x - 2}$ on the interval $0.5 \leq x \leq 3$.

2. $w(t) = 5t^2 - 5t + 1$ on the interval $[-2, 1]$

Use the information in the table to find the average rate of change on the given interval.

3.

t minutes	1	3	4	12	13
$s(t)$ feet	-2	4	-7	5	10

a. $3 \leq t \leq 13$

b. $1 \leq t \leq 12$

c. $3 \leq t \leq 4$

Estimate the rate of change of each function at the given point.

4. $f(x) = \frac{3}{x}$ at $x = 4$

5. $f(x) = 4x^2 - 1$ at $x = 2$

6. $f(x) = \sqrt{5x}$ at $x = 1$

State whether the situation represents a positive or negative rate of change.

7. As you do more chores, your parents' happiness level increases.

8. The electrostatic force, measured in newtons, between two charged particles decreases as the distance between the particles increases.

9. As the temperature decreases, the number of people at the lake decreases.

Answers to 1.2 CA #1

1. 1.159	2. -10	3a. 0.6 feet / min 3b. 0.636 feet / min 3c. -11 feet / min	4. ≈ -0.1875	5. ≈ 16
6. ≈ 1.118	7. positive	8. negative	9. positive	