

Today's Plan:

Learning Target (standard): I will evaluate and graph piecewise functions. I will determine their domain and range. I will calculate the average rate of change for functions. I will describe properties of functions.

Students will: Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, and solve quiz problems.

Teacher will: Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide quiz problems.

Assessment: Board work, homework check and quiz

Differentiation: Students will work at the board, go over and correct homework at their seats, actively engage in quiz problems.

Find the domain.

$$f(x) = \frac{x^2 + 7x + 6}{\sqrt{10 - 5x}}$$

$$10 - 5x > 0$$

$$-5x > -10$$

$$x < 2$$

$$D: \{x \mid x < 2\}$$

Find the AROC between 2 and 4 when:

$$f(x) = \frac{x+1}{x^2-2}$$

$$f(4) = \frac{4+1}{16-2}$$

$$f(4) = \frac{5}{14}$$

$$AROC = \frac{f(4) - f(2)}{4 - 2}$$

$$f(2) = \frac{2+1}{4-2}$$

$$f(2) = \frac{3}{2}$$

$$= \frac{\frac{5}{14} - \frac{3}{2}}{2}$$

$$= \frac{\frac{5}{14} - \frac{21}{14}}{2}$$

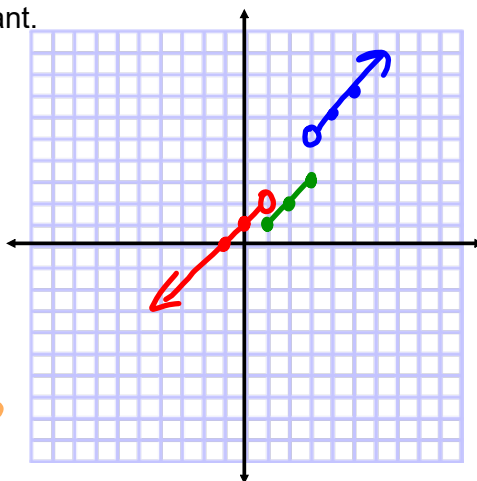
$$= \frac{-\frac{16}{14}}{2}$$

$$= -\frac{8}{7} \cdot \frac{1}{2}$$

$$AROC = -\frac{4}{7}$$

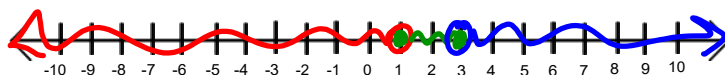
Graph and find domain and range. Describe where it is increasing, decreasing and constant.

$$f(x) = \begin{cases} x+1, & x < 1 \\ x, & 1 \leq x \leq 3 \\ x+2, & x > 3 \end{cases}$$



D: \mathbb{R}

R: $\{y \mid y \leq 3, y > 5\}$



Increasing: $(-\infty, 1), (1, 3), (3, \infty)$

Constant: —

Decreasing: —