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.

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

$10-5x>0$

$-5x>-10$

$x<2$

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

Find the AROC between 2 and 4 when:

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

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

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

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

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

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

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

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

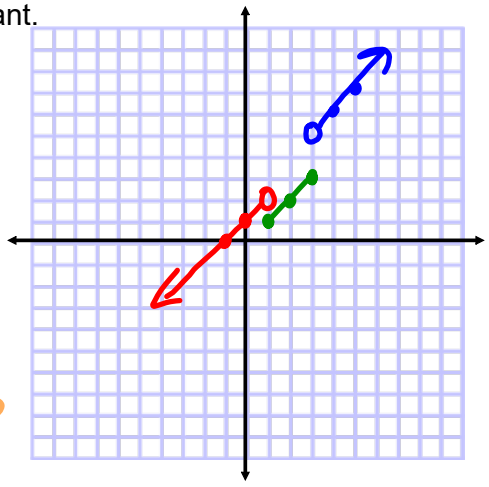
$$=\frac{-\frac{16}{14}}{2}$$

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

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

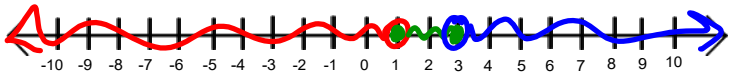
Graph and find domain and range. Describe where it is increasing, decreasing and constant.

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



D: $\mathbb{R}$

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



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

Constant: —

Decreasing: —