

### In-Class Assignment 3 (Due: 9/29/21)

**Directions:** When instructed, try to solve the following problems. This assignment is due at the end of class.

1. Graph the piece-wise-define function  $f(x) = \begin{cases} \sqrt{x}, & \text{if } x > 0 \\ 1, & \text{if } x = 0 \\ -1, & \text{if } x < 0. \end{cases}$

2. The following table shows the average population of the City of Santa Cruz.

<b>Year</b>	2012	2013	2014	2015	2016	2017
<b>Population</b>	60,319	61,245	62,045	62,752	63,310	63,993

Find the average rate of change of the population from 2013 to 2016, including units.

3. Given  $f(t) = t^2 - t$  and  $h(x) = 3x + 2$ , find  $(f \circ h)(1)$ .