

San José State University
Fall 2015
Math-8: College Algebra
Section 03: MW noon–1:15pm
Section 05: MW 4:30–5:45pm

Quiz #7

Closed book and notes. No calculator allowed. All work must be shown for full credit.

1. The map of a town is laid out on a grid. The police station and the fire station are both located on Main Street, with the police station at the position $(3, -7)$ and the fire station at the position $(-2, 5)$.

a. How far is it between the two stations?

b. City Hall is also located on Main Street, exactly halfway between the two stations. What is the position of City Hall?

2. Water boils at $212^{\circ}F$ and $100^{\circ}C$. It freezes at $32^{\circ}F$ and $0^{\circ}C$. Let y be degrees Fahrenheit and x be degrees Celsius.

a. Find an equation for converting from Celsius to Fahrenheit expressed in slope-intercept form.

b. Express the equation in point-slope form using the boiling point.

c. Express the equation in general form.

3. Consider the equation $y = \frac{8}{x^2-2}$.

a. Determine any x-intercept(s).

b. Determine any y-intercept(s).

c. Determine any discontinuities.

d. Determine any symmetries by plugging in $(-x)$ and/or $(-y)$ appropriately. Be sure to correctly name any discovered symmetry.

e. Sketch the graph, showing all of the features found above.