Name _Solutions_____ Trigonometry Quiz 1

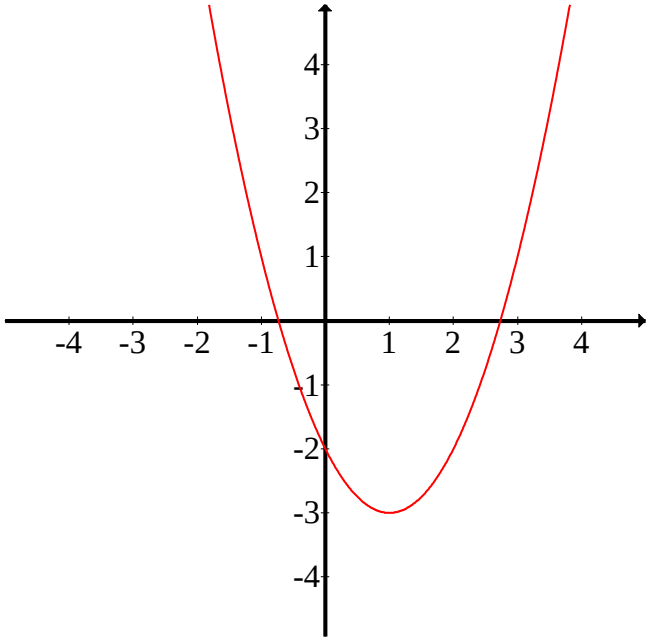
1) Let $f(x) = 2x^2 + 5$ and $g(x) = x - 3$. Find $f(2)$.

Plug "2" in for "x"

$f(2) = 2 \cdot (2)^2 + 5 = 13$

2) Sketch a graph of $f(x) = (x-1)^2 - 3$

This is the graph of $y = x^2$ with a shift one unit right and then three units down:



3) The number of gremlin-free households, H (in thousands), can be approximated using the equation

$$H = 171y + 2913$$

where y is the number of years since 1990.

Find and interpret the H-intercept for the line.

Note that this question has two parts. "Find **and** interpret".

Here "y" is the independent variable, which is usually "x".
Here "H" is the "dependent" variable, which is usually "y".

The H-intercept is when it crosses the H axis. This happens when $y = 0$, so the H-intercept is 2913 thousand.
(Don't lose the units! That's not 2913, that's 2,913,000 !)

What does this mean? $y = 0$ means "0 years since 1990", so this can be interpreted as "There were 2913 thousand gremlin-free homes in 1990."