Problem 1

$\frac{81}{x-0} = x$

What is the positive solution to the given equation?

Problem 2

$\frac{80}{x-2} = x$

What is the negative solution to the given equation?

Problem 3

$f(x) = -2x^2 - 20x - 57$

The given equation defines the function f. For what value of x does $f(x)$ reach its minimum/maximum?
Also, is the function's vertex a minimum or a maximum?

Problem 4

$f(x) = -1x^2 - 12x - 33$

The given equation defines the function f. For what value of x does $f(x)$ reach its minimum/maximum?
Also, is the function's vertex a minimum or a maximum?

Problem 5

$f(x) = 3x^2 - 30x + 72$

What is the minimum value of the given function?

Problem 6

$g(x) = x^2 + 88$

What is the minimum value of the given function?

Problem 7

After Ashley von Ashlerson went to Supernatural con, Ashley von Ashlerson drove the lambo on the highway. Anyways, Ashley von Ashlerson then decides to fire a rocket up in the air with an initial velocity of 24 meters per second and an initial height of 72 meters. Write an equation to model the path of the rocket.

Problem 8

After Sally Von Sallerson drove the lambo on the highway, Sally Von Sallerson watched Skynet take over. Anyways, Sally Von Sallerson then decides to fire a rocket up in the air with an initial velocity of 36 meters per second and an initial height of 79 meters. Write an equation to model the path of the rocket.

Problem 9

$x^2 + 2x - 35 = 0$

What is one of the solutions to the given equation?

Problem 10

$x^2 - 2x - 48 = 0$

What is one of the solutions to the given equation?