**MultiMath Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Part Deux – Solving Quadratic World Problems by Factoring**

**Question 1:** Solve the equations by factoring. First, move the constant over. When factored, state the zeros/solutions by writing x= # and x=#

a) $6=x^{2}+9x+26$ b) $-45=2x^{2}+14x-165$

**Question 2:** A model rocket is launched straight upward with an initial velocity of 22 m/s. The height of the rocket, h, in metres, can be modelled by $h=-5t^{2}-22t$ where t is the elapsed time in seconds. What is the maximum height the rocket reaches?
**Steps:** Find zeros -> Average the Zeros->Plug that # into the equation.

**Question 3:** A rectangular enclosure has an area in square metres given by $A=2w^{2}+36w$ where w is the width of the rectangle in metres. Determine the width that would create a rectangular enclosure of 130 m2.
**Steps:** Plug 130 into A -> move 130 to the other side of the equation -> factor.

**Question 4:** Fred wants to install a wooden deck around his rectangular swimming pool. The relation $C=120x^{2}+1800x+5400$ represents the cost of installation, where x is the width of the deck in metres and C is the cost in dollars. What will the width be if Fred spends $9480 for the deck? (Same idea as Question 3)