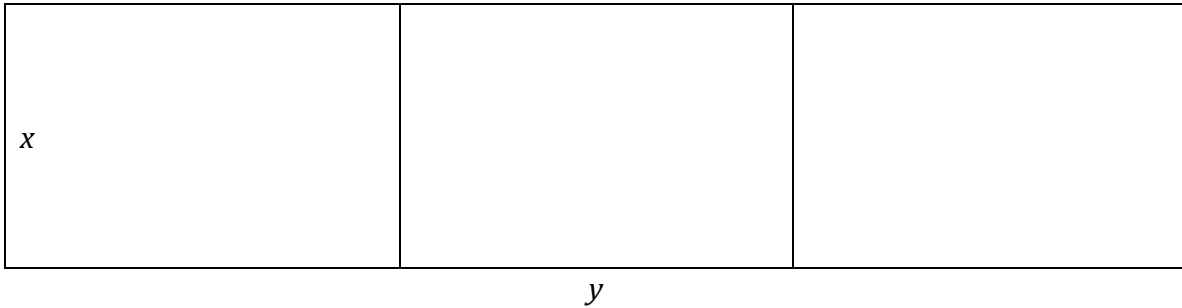


Math Quiz: Quadratic Word Problems

1. Some racquetball courts are fenced into three sections as shown. If the total amount of fencing used is 800m, what are the values of each side so that the area is the greatest?



2. The crossbar on some football goalposts is 3.4m above the ground. The height of the ball in metres is given by $h(t) = 9.8t + 1.1 - 4.9t^2$ where t is the time in seconds. If the ball reaches the maximum height between the goalposts,

- a. Does the ball clear the crossbar?
- b. When does that happen?

3. The length of a rectangle is 6 inches more than its width. The area of the rectangle is 91 square inches. Find the dimensions of the rectangle.

4. A grower has 100 tonnes of potatoes she can sell now for a profit of \$500 per tonne. For each week she delays shipment, she can produce an additional 10 tonnes of potatoes. Unfortunately, for each week she delays, the profit decreases by \$25 per tonne.

- a. Write a statement to describe the number of tonnes she can sell.
- b. Write a statement to describe how much she can sell a tonne for.
- c. When should she ship to maximize her profit, and what is the maximum profit?