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| NAME  | Date | Band |
| **Introduction to Optimization (Part II)**Calculus | Packer Collegiate institute |

**Challenge #1**

Label the marked point and then all of the sides of the rectangle. (The equation of the line was $x+5y=10$.)



Use calculus to determine the dimensions of the rectangle with the largest area.

Width: Height: Area:

**Challenge #3**

Label the marked point and the base and height of the triangle. (The equation of the parabola was $y=9-x^{2}$.)



Use calculus to determine the dimensions of the triangle with the largest area.

Base: Height: Area:

**Challenge #4**

Label the marked point and the trapezoid’s bases and height. (The equation of the parabola was $y=4-x^{2}$.)



Use calculus to determine the dimensions of the trapezoid with the largest area.

Base1: Base2: Height: Area: