

Part A: Equation Type

Ultimately there is one unknown/variable and we solve for it.

1. The length of a rectangle is 6 cm more than its width. The area of the rectangle is 91 centimeters squared. Find the Dimensions of the rectangle. [13, 7]
2. The product of two consecutive odd integers is 1 less than four times their sum. Find the two integers. [7, 9 and - 1, 1]
3. The hypotenuse of a right triangle is 6 more than the shorter leg. The longer leg is three more than the shorter leg. Find the length of the shorter leg. [9]

Part B: Relation Type

There is a relation, which we need to optimize (by completing the square)

1. Two numbers have a difference of 10. What are the numbers if their product is a minimum? [5, -5]
2. The cost of a ticket to a hockey arena seating 800 people is \$3. At this price every ticket is sold. A survey indicates that if the price is increased, attendance will fall by 100 for every dollar of increase. What ticket price will result in greatest revenue? [\$5.50]