Recall that if you choose numbers \( m \) and \( n \) with no common factors, one even and one odd, then if \( a = m^2 - n^2, b = 2mn, c = m^2 + n^2, a^2 + b^2 = c^2 \)

1. Let \( m = 5, n = 4 \). Find \( a, b \) and \( c \) and show by computing that these are sides of a right triangle.

2. Let \( m + n = 11 \) \( m - n = 1 \) Find \( m \) and \( n \).

3. Using the numbers you found in number 3, find a Pythagorean triple with one side equal 11.