

Warm up:

If  $x^2 - y^2 = 3$  and  $x^2 + y^2 = 7$ , find the value of  $x^4 y^4$ .

Challenge:

A right triangle has integer side lengths  $a$ ,  $b$  and  $c$  with  $a < b < c$ . If  $a + c = 49$ , what is the area of the triangle?