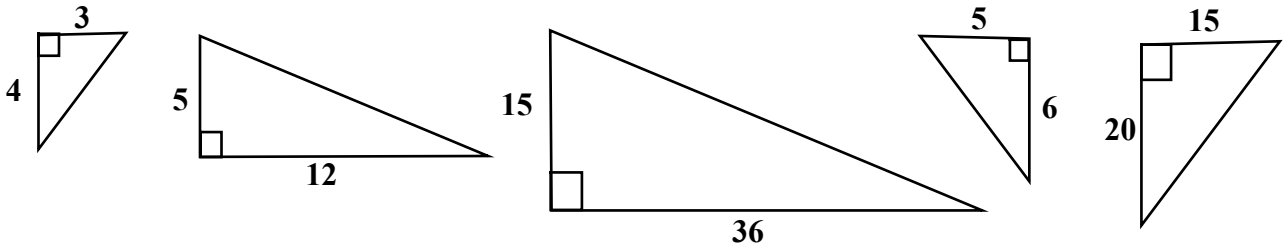
COUNTDOWN Challenge

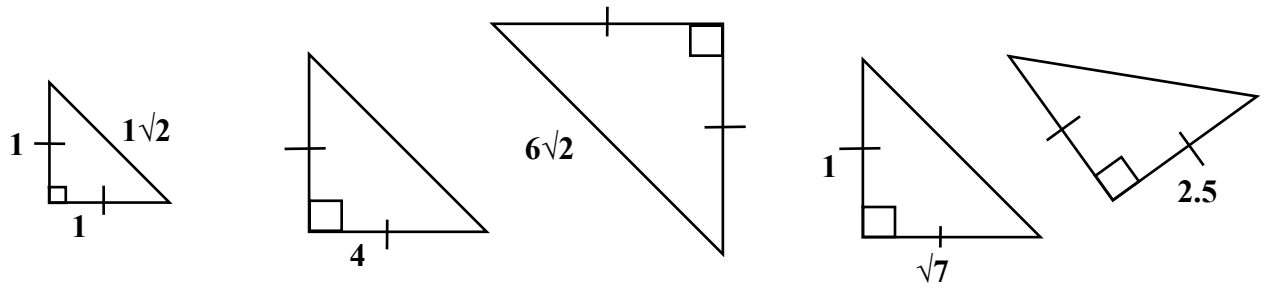
Special Right Triangles

A ***special right triangle*** is a right triangle with some regular feature that makes calculations on the triangle easier, or for which simple formulas exist. There are several well known Pythagorean triples including: 3,4,5 and 5,12,13. If you can spot these or ***mathematically similar triangles***, you will save yourself a great deal of calculation.

Find the missing length of the following triangles by recognizing a Pythagorean triplet or by using the Pythagorean theorem. ($a^2 + b^2 = c^2$)



Another special right triangle is the isosceles right triangle. The lengths of the sides are always the ratio 1,1, radical 2. Find the missing length of the following triangles by recognizing an isosceles right triangle or by using the Pythagorean theorem.



Another special right triangle is the 30 degrees, 60 degrees right triangle. The lengths of the sides are always the ratio 1, 2, radical 3. Find the missing length of the following triangles by recognizing a 30 degrees 60 degrees 90 degrees triangle or by using the Pythagorean theorem.