Corbettmaths

Simplify

$(2x - 3)^3 - (x - 4)^3$

Express $\sqrt{8} + \sqrt{18}$ in the form $a\sqrt{2}$

A scientist wants to estimate the number of toads living near a lake.

On Friday she catches 90 toads and tags them. She then releases the toads.

On Saturday the scientist catches 50 toads and 7 of them are tagged.

Estimate the number of toads that live near the lake.

There are 12 counters in a bag.
8 are green
3 are white
1 is red

Conor takes two counters at random from the bag. Work out the probability that Conor takes two counters of different colours.

$x^2 + 16y^2 = 8xy$

x > 0 and y > 0

Find the ratio x : y