



A sequence of numbers is formed by the iterative process

$$a_{n+1} = (a_n)^2 - 5$$

$$a_1 = 3$$

Find

$$a_3$$

A sculptor wants to transport a piece of rock.

It is a sphere with radius 0.4m to the nearest centimetre.

The density of the rock is 3.4g/cm³

The truck can carry up to 1000kg to one significant figure.

Can the sculptor safely transport the rock?

A remote control car drives in a straight line.

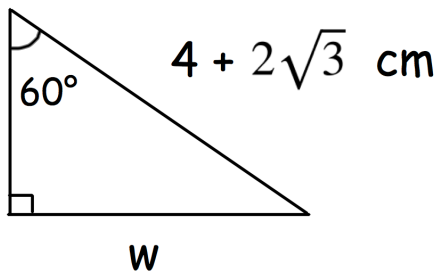
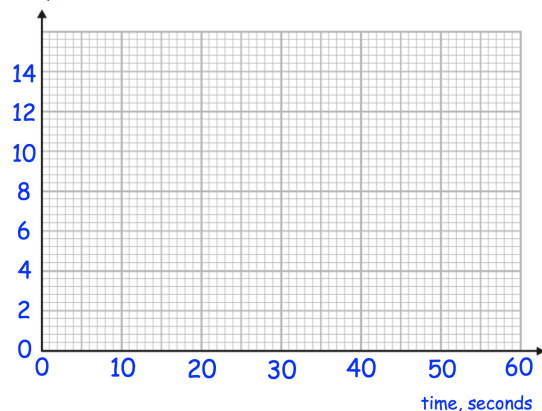
It starts from rest and travels with constant acceleration for 15 seconds reaching a velocity of 10m/s.

It then travels at a constant velocity for 5 seconds.

It then slows down with constant deceleration of 0.5m/s²

Draw a velocity-time graph and work out the total distance travelled.

Velocity, m/s



Find the exact length of the side labelled w.