

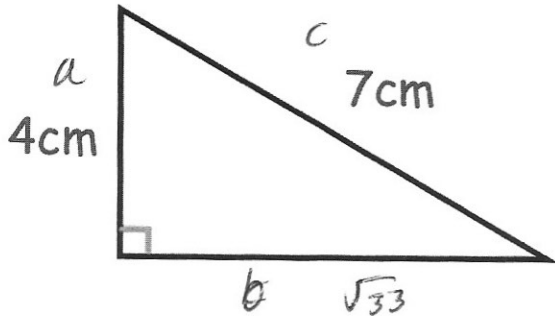


Write down the exact value of:

 $\tan 0^\circ$ 

0

Write down the exact value of:

 $\tan 60^\circ$  $\sqrt{3}$ 

Find the area of the triangle.

Give your answer in surd form and as simply as possible

$$a^2 + b^2 = c^2$$

$$16 + b^2 = 49$$

$$b^2 = 33$$

$$b = \sqrt{33}$$

Area

$$\frac{1}{2} \times \sqrt{33} \times 4$$

$$= 2\sqrt{33} \text{ cm}^2$$

Given

$$f(x) = 2x + 3$$

$$g(x) = 4x^2$$

Find  $fg(x)$ 

$$fg(x) = 2(4x^2) + 3$$

$$= 8x^2 + 3$$

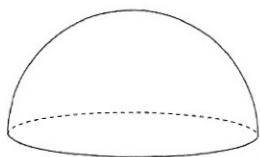
P O L Y G O N

A tile is selected at random, it is **not replaced** and then another tile is selected.

Work out the probability that both cards are O.

$$P(OO) = \frac{2}{7} \times \frac{1}{6} = \frac{2}{42}$$

$$\frac{1}{21}$$



$$V = \frac{1}{2} \left( \frac{4}{3} \times \pi \times r^3 \right)$$

$$= \frac{1}{2} \left( \frac{4}{3} \times \pi \times 3^3 \right)$$

$$= 18\pi \text{ cm}^3$$

$$m = d \times V$$

$$= 6.13 \times 18\pi = 346.64g$$

The solid hemisphere shown has a radius of 3cm.

The hemisphere is made from a material with density  $6.13\text{g/cm}^3$ .

Calculate the mass of the hemisphere.