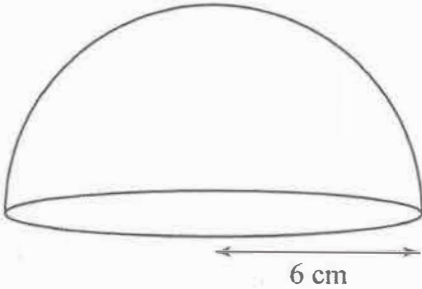


4th March



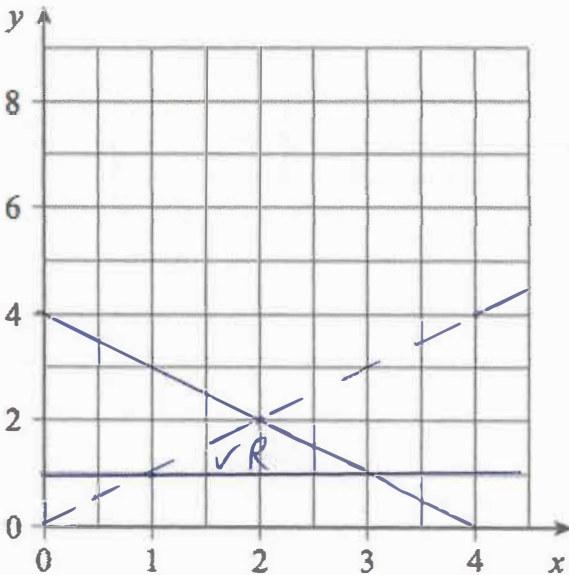
Corbettmaths



Calculate the surface area of this hemisphere.

$$2\pi r^2 + \pi r^2 = 3\pi r^2$$

$$3\pi \times 6^2 = 339.292 \text{ cm}^2$$



On the grid, clearly indicate the region that satisfies all these inequalities.

$$y < x \quad y \geq 1 \quad x + y \leq 4$$

Write **0.512** as a fraction.

Give your answer in its simplest form.

$$\begin{aligned} x &= 0.5121212 \dots \\ 10x &= 5.121212 \dots \\ 1000x &= 512.1212 \dots \\ 990x &= 507 \\ x &= \frac{507}{990} = \frac{169}{330} \end{aligned}$$

A field has width x and length $2x + 1$.
The area of the field is 600 m^2
Find the width and length of the field.

$$\begin{aligned} x &= \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \\ x &= \frac{-1 \pm \sqrt{1 - (-4800)}}{4} \\ x &= \frac{-1 \pm \sqrt{4801}}{4} \end{aligned}$$

$$\begin{aligned} x(2x + 1) &= 600 \\ 2x^2 + x &= 600 \\ 2x^2 + x - 600 &= 0 \\ (2x - 1)(x + 600) &= 0 \\ a=2 \quad b=1 \quad c=-600 \end{aligned}$$

$$x = 17.07 \text{ or } -17.57$$

width = 17.07 m
length = 35.14 m