Name: _____ 5-a-day Higher Plus

19th October

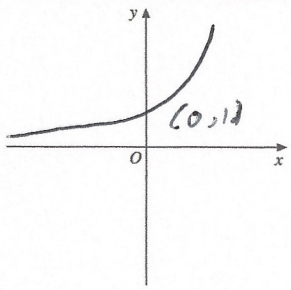
Corbettmaths

A circle has equation $x^2 + y^2 = 25$

Find the area of the circle $r = 5$

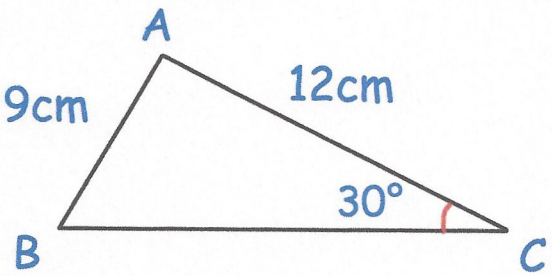
$\pi \times 5^2 = 25\pi \text{ cm}^2$

78.54 cm^2



Sketch

$y = 3^x$

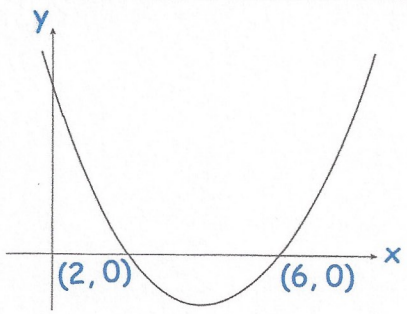


Find angle BAC

$\frac{\sin y}{12} = \frac{\sin 30}{9}$

$y = 41.81°$

$BAC = 108.19°$



Shown is the curve with equation
$y = x^2 + ax + b$

Find a and b $y = (x-2)(x-6)$

$y = x^2 - 6x - 2x + 12$

$y = x^2 - 8x + 12$

Solve the simultaneous equations

$x^2 + 3xy = 10$
$x + 2y = 3$

$x = 3 - 2y$

$(3-2y)(3-2y) + 3y(3-2y) = 10$

$9 - 12y + 4y^2 + 9y - 6y^2 = 10$

$9 - 3y - 2y^2 = 10$

$0 = 2y^2 + 3y + 1$

$(2y+1)(y+1) = 0$

$y = -\frac{1}{2}$ or $y = -1$

$x = 4$ $x = 5$

$(4, -\frac{1}{2})$ $(5, -1)$