23rd May

Simplify

\[(27x^6)^{\frac{2}{3}}\]

AOC is an equilateral triangle of side length 14cm.

OBD is a sector of a circle with centre O and radius 11cm.

Calculate the area of the shaded region as a percentage of the area of triangle AOC.
Give your answer correct to 3 significant figures.

Find the coordinates where the line \(x + y = 3\) and the curve \(x^2 + 3y = 27\) intersect

Given

\[f(x) = \sqrt{3x - 4}\]

find \(x\) when

\[f(x) = 2.5\]