Rearranging Formulae: Powers, Roots and Brackets

1

Make x the subject of

$$y = \sqrt{\frac{x-3}{2}} + 5$$

Answer _____

2

Make x the subject of $p = 4 - 3x^2$

Answer _____

3

Make x the subject of

$$m = (2x-1)^3 + 4$$

Answer _____

4

Make x the subject of $y = \dfrac{k}{x^2 - 3}$

Answer _____

5

An equilateral triangle with sides s cm long has area $A = \frac{\sqrt{3}}{4}s^2$ cm^2.

Make s the subject. Then find the length of a side when the area is $9\sqrt{3}$ cm^2.

Answer _____

6

Sam makes x the subject of $y = \sqrt{x^2 + 16}$ and writes $x = y - 4$.

Choose a value of x to show Sam is wrong. Then make x the subject correctly.

Answer _____

7

A sphere of radius r has surface area $A = 4\pi r^2$ and volume $V = \frac{4}{3}\pi r^3$.

Show that $V = \frac{1}{6}\sqrt{\frac{A^3}{\pi}}$

Proof _____

8

Make x the subject of $y = (x-2)^2 + 3$.

For which values of y does this give a value of x? Explain why.

Answer _____