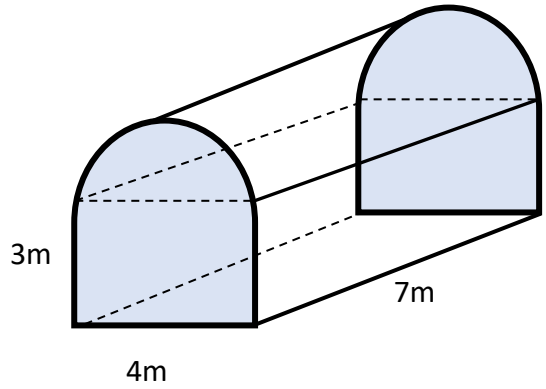
National 5

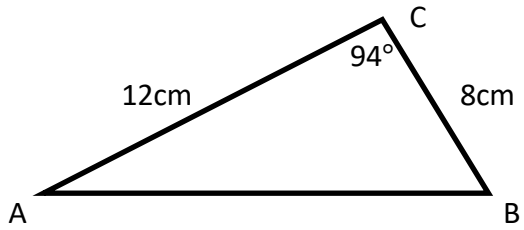
Short Task 30

Round all answers to an appropriate degree of accuracy unless specifically stated

1. Find the volume of the solid below, leaving your answer in terms of π.



2. Find the length of the side AB in the triangle below.



3a. Factorise $3x^2 - 5x - 12$

3b. Hence simplify

$$\frac{x^2 - 9}{3x^2 - 5x - 12}$$

4a. Find the roots of the function with equation

$$f(x) = x^2 - 2x - 15$$

4b. State the coordinates of the y-intercept.

4c. State the coordinates of the turning point and the equation of the axis of symmetry.

4d. Make a neat sketch of the graph, clearly indicating all points.

5. Simplify $\sqrt{18} + \sqrt{50} - 2\sqrt{2}$

6. State the gradient and y-intercept of the line with equation $4x - 3y - 20 = 0$.