### 4th September

**Find an expression for the third side.**

![Diagram of a triangle with sides 5n and 5n + 1.](image)

The cone is made from a material with density 5g/cm³.

**Write an expression for the mass of the cone, in terms of x.**

![Diagram of a cone with dimensions 5x and 6x.](image)

The sketch shows a curve with equation \( y = ab^x \) where \( a \) and \( b \) are constants and \( b > 0 \).

The curve passes through the points (0, 3) and (2, 12).

**Calculate the value of \( a \) and \( b \).**

**Solve the inequality** \( x^2 + 6x + 8 < 0 \)

**Prove that the angle in a semi-circle is always 90°**

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