Non calculator:

Express \( x^2 + 8x - 7 \) in the form \((x + a)^2 + b\).

Calculator

Solve the equation

\[
2x^2 + 7x - 3 = 0.
\]

Give your answers correct to 1 decimal place.

Challenge Question (Non-calculator):

The diagrams below show a rectangle and a triangle.
All measurements are in centimetres.

\[
\begin{array}{c}
\text{2x + 1} \\
\hline
\text{x + 8}
\end{array}
\hspace{1cm}
\begin{array}{c}
3x \\
\hline
2(x+5)
\end{array}
\]

(a) Find an expression for the area of the rectangle.

(b) Given that the area of the rectangle is equal to the area of the triangle,
show that \( x^2 - 2x - 8 = 0 \).

(c) Hence find, algebraically, the length and breadth of the rectangle.