1. Factorise the following using the method of completing the square:
   a. $x^2 + 12x - 1$
   b. $2x^2 + 8x - 5$

2. Solve the following quadratic equations using the method of completing the square:
   a. $x^2 - 10x + 19 = 0$
   b. $x^2 - 3x - 11 = 0$

3. Solve the following pair of simultaneous equations by substitution:
   $5x - 3y = 11$
   $4x + y = 19$

4. Find the coordinates of the points at which the line with equation $y = 3x - 1$ intersects the curve with equation $y^2 - xy = 15$

5. Simplify $8^{\frac{2}{3}} \times 25^{-\frac{1}{2}}$

6. Draw a sketch of the graph of $y = \sin x$, for $0° \le x \le 360°$. Use your sketch to find all the solutions to the equation $\sin x = -0.75$ within this range.

7. The function f maps x onto f(x) where $f(x) = 8 + 5x - 2x^2$ and the function g maps x onto g(x) where $g(x) = 5x - 4$. Find
   a. f(4)
   b. x when g(x) = 21
   c. gf(4)
   d. gf(x)
   e. show that when g(x) = f(x), $x = \pm\sqrt{6}$

8. Find
   a. $Q\hat{A}C$
   b. $A\hat{P}B$