1. **Number Systems:**
   a. Classify the following numbers as rational or irrational: $\sqrt{16}$, π, $\frac{3}{5}$.
   b. Represent $\frac{7}{8}$ on the number line.

2. **Polynomials:**
   a. Factorize the quadratic expression $x^2 - 6x + 9$.
   b. Using the Remainder Theorem, find the remainder when $2x^3 - 5x^2 + 3x - 1$ is divided by $x - 2$.

3. **Coordinate Geometry:**
   a. Find the coordinates of the midpoint of the line segment joining $(-3, 2)$ and $(5, -4)$.
   b. Prove that the points $(-1, 2)$, $(3, -4)$, and $(5, 6)$ form a right-angled triangle.

4. **Linear Equations in Two Variables:**
   a. Solve the system of equations:

   $$\begin{align*}
   2x - y &= 5 \\
   3x + 2y &= 8
   \end{align*}$$

   b. Interpret the solution graphically.

5. **Triangles:**
   a. Prove the Pythagorean Theorem: $a^2 + b^2 = c^2$, where a, b, and c are the sides of a right-angled triangle.
   b. In $\triangle ABC$, if $\angle B = 90^\circ$ and $\angle A = 30^\circ$, find $\sin C$.

6. **Quadrilaterals:**
   a. Classify the quadrilateral with vertices at $(1, 2)$, $(4, 6)$, $(7, 7)$, and $(3, 4)$.
   b. Prove that the opposite angles of a parallelogram are equal.

7. **Circles:**
   a. Find the circumference of a circle with radius $5\, \text{cm}$.
   b. Determine the area of a sector with a central angle of 60° in a circle of radius $8\, \text{cm}$.