TOPIC 4: Polynomials and Polynomial Equations

1. Solve by factoring: $6x^2 = 3x$

2. Solve by factoring: $6x^2 - 6 = -5x$

3. Factor: $m^3n^2 - mn^3 + m^2n^4$

4. Find the polynomial, $P$, which completes the equation:
   $(2y-3)(3y^2 + 1) - (2y-3)(y-1) = (2y-3)(P)$

5. Solve: $2x^2 - 2x = 5$

6. Solve and graph on the number line: $2x^2 + 11x > 21$

7. Solve and graph on the number line: $6x^2 < 3x$

8. Complete the square, tell what must be added: $3x^2 + 9x$

9. Sketch the graph: $y = -(x -1)(x + 3)$
10. Sketch the graph: \( y = (x -1)^2 + 3 \)

ANSWERS TOPIC 4: Polynomials and Polynomial Equations
1. \( x = 0 \) or \( x = \frac{1}{2} \)
2. \( x = \frac{2}{3} \) or \( x = -\frac{3}{2} \)
3. \( mn^2 (m^2 - n + mn^2) \)
4. \( P = y^2 + 5y - 2 \)
5. \( x = \frac{1 \pm \sqrt{11}}{2} \)
6. \( x < -7 \) or \( x > \frac{3}{2} \)
7. \( x > 0 \) and \( x < \frac{1}{2} \)
8. \( 3 \left(x + \frac{3}{2}\right)^2 \), add \( \frac{27}{4} \)
9.

For more examples, click here.