

### Solving Equations

#### Solving Polynomial, Logarithmic, & Exponential Equations – Completion

Solve each of the following:

1.  $x^4 + 14x^3 + 53x^2 + 16x - 84 = 0$

2.  $x^4 - x^3 - 17x^2 - x + 42 = 0$

3.  $x^3 - 2x^2 - 5x + 10 = 0$

4.  $x^4 + 6x^3 - 56x^2 - 6x + 55 = 0$

5.  $x^3 - 189x - 540 = 0$

6.  $x^3 + 8x^2 + 19x + 14 = 0$

Solve each of the following Exponential Equations:

7. $6^{x-2} = 6^3$	8. $81^{1-p} = 243$
9. $3^{-3n} = 9$	10. $16^{1-2x} = 64^x$
11. $6^{-r} = 6^{3r-2}$	12. $5^{-x} = 5^4$

Solve each of the following Logarithmic Equations:

13. $\log_8 2 + \log_8(4x^2) = 1$	14. $\log_9(x + 6) - \log_9 x = \log_9 2$
15. $\ln(x - 3) - \ln(x - 5) = \ln 5$	16. $\ln(4x + 1) - \ln 3 = 5$