Other Types of Equations

1. Solve each polynomial equation by factoring and the using the zero-product principle:
(Similar to p.168 #6)

$$x + 2 = 4x^3 + 8x^2$$

2. Solve each polynomial equation by factoring and the using the zero-product principle:
(Similar to p.168 #10)

$$5x^4 = 40x$$

3. Solve each radical equation:
(Similar to p.169 #18)

$$x - \sqrt{-2x + 7} = 2$$

4. Solve each radical equation:
(Similar to p.169 #26)

$$\sqrt{3x + 6} - \sqrt{x - 1} = 3$$

5. Solve each equation with rational exponents:
(Similar to p.169 #38)

$$(x - 4)^{\frac{2}{3}} = 9$$

6. Solve each equation with rational exponents:
(Similar to p.169 #40)

$$\left(x^2 - 5x + 10\right)^{\frac{3}{2}} - 8 = 0$$

7. Solve each equation by making an appropriate substitution:
(Similar to p.169 #42)

$$x^4 - 5x^2 + 4 = 0$$

8. Solve each equation by making an appropriate substitution:
(Similar to p.169 #49)

$$x^{\frac{2}{3}} + 6x^{\frac{1}{3}} - 7 = 0$$

9. Solve each equation by making an appropriate substitution:
(Similar to p.169 #58)

$$(x^2 - 2x)^2 - 23(x^2 - 2x) + 120 = 0$$

10. Solve each absolute value equation or indicate that the equation has no solution:
(Similar to p.169 #68)

$$5\left|4x + 3\right| = 20$$

11. Solve each absolute value equation or indicate that the equation has no solution:
(Similar to p.169 #74)

$$\left|x - 3\right| + 8 = 1$$

12. Solve each absolute value equation or indicate that the equation has no solution:
(Similar to p.169 #76)

$$|5x+1|+6=6$$

13. Solve each absolute value equation:
(Similar to p.169 #78)

$$|4x+1|=|x-2|$$