

ES 6: Assignment #5

Date _____ Period _____

Solve each equation by completing the square.

1) $a^2 + 4a - 21 = 0$

2) $p^2 - 14p + 33 = 0$

3) $n^2 + 12n - 36 = 0$

4) $n^2 - 2n - 48 = 0$

5) $10x^2 - 20x - 74 = 6$

6) $5n^2 + 10n - 21 = 4$

7) $2p^2 - 8p - 92 = -2$

8) $x^2 - 12x - 48 = -3$

9) $-30 - 17r = -10r^2 + 5r + 2$

10) $n^2 + 7n + 38 = 2n$

Solve each equation by factoring.

11) $(m + 1)(m - 4) = 0$

12) $(m - 5)(2m - 1) = 0$

13) $8m^2 = -8m + 16$

14) $b^2 = 8b$

15) $12x^2 - 45x + 48 = -7x + 7x^2$

16) $10 - 27x = -5x^2$

Solve each equation by taking square roots.

17) $a^2 - 7 = 2$

18) $n^2 + 5 = 54$

19) $9v^2 + 5 = 617$

20) $4 - 5x^2 = -131$

21) $9x^2 - 8 = 2296$

22) $8a^2 + 5 = -67$

Answers to ES 6: Assignment #5

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|-------------------------------------|-------------------------------------|---|------------------|
| 1) $\{3, -7\}$ | 2) $\{11, 3\}$ | 3) $\{-6 + 6\sqrt{2}, -6 - 6\sqrt{2}\}$ | |
| 4) $\{8, -6\}$ | 5) $\{4, -2\}$ | 6) $\{-1 + \sqrt{6}, -1 - \sqrt{6}\}$ | |
| 7) $\{9, -5\}$ | 8) $\{15, -3\}$ | 9) $\left\{3\frac{1}{5}, -1\right\}$ | 10) No solution. |
| 11) $\{-1, 4\}$ | 12) $\left\{5, \frac{1}{2}\right\}$ | 13) $\{-2, 1\}$ | 14) $\{8, 0\}$ |
| 15) $\left\{\frac{8}{5}, 6\right\}$ | 16) $\left\{\frac{2}{5}, 5\right\}$ | 17) $\{3, -3\}$ | 18) $\{7, -7\}$ |
| 19) $\{2\sqrt{17}, -2\sqrt{17}\}$ | 20) $\{3\sqrt{3}, -3\sqrt{3}\}$ | 21) $\{16, -16\}$ | 22) No solution. |