General Algebra II Worksheet #7 Unit 8 selected solutions

Solve using the factoring method.

4. $3x^2 = 5x + 2$

$3x^2 - 5x - 2 = 0$

$(3x + 1)(x - 2) = 0$

$3x + 1 = 0$ or $x - 2 = 0$

$x = -1/3$ or $x = 2$

6. $(2x - 1)^2 = 2x^2 - 3x + 11$

$4x^2 - 4x + 1 = 2x^2 - 3x + 11$

$2x^2 - x - 10 = 0$

$(2x - 5)(x + 2) = 0$

$2x - 5 = 0$ or $x + 2 = 0$

$x = 5/2$ or $x = -2$

Solve using the square root property. method.

9. $3x^2 - 8 = 0$

$3x^2 = 8$

$x^2 = \frac{8}{3}$

$x = \pm\sqrt{\frac{8}{3}}$

$x = \pm\frac{\sqrt{24}}{3}$

$x = \pm\frac{2\sqrt{6}}{3}$

Solve using the complete the square

13. $2x^2 + 3x - 9 = 0$

$2x^2 + 3x = 9$

$x^2 + \frac{3}{2}x = \frac{9}{2}$

$x^2 + \frac{3}{2}x + \frac{9}{16} = \frac{9}{2} + \frac{9}{16}$

$\left(x + \frac{3}{4}\right)^2 = \frac{81}{16}$

$x + \frac{3}{4} = \pm\frac{9}{4}$

$x = \frac{-3 \pm 9}{4}$

$x = 3/2$ or $x = -3$

Solve using the quadratic formula.

16. $6x^2 + x - 2 = 0$

$a = 6$ $\quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$b = 1$

$c = -2$ $\quad x = \frac{-1 \pm \sqrt{1 - (-48)}}{12}$

$x = \frac{-1 \pm \sqrt{49}}{12}$

$x = \frac{-1 + 7}{12}$ or $x = \frac{-1 - 7}{12}$

$x = 1/2$ or $x = -2/3$