

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

22. $x^2 + 100 = 0$

$$\sqrt{x^2} = \sqrt{-100}$$

$$x = \pm 10i$$

23. $t^2 + 24 = 0$

$$t^2 = -24 \cdot \frac{3 \cdot 24}{18}$$

$$t = \pm 2i\sqrt{6}$$

24. $x^2 - 6x + 13 = 0$

$$-(-6) \pm \sqrt{(-6)^2 - 4(1)(13)}$$

$$2(1)$$

$$6 \pm \sqrt{-16}$$

$$2_0$$

$$6 \pm 4i \quad x = 3 \pm 2i$$

$$2$$

25. $r^2 - 2r + 5 = 0$

$$-(-2) \pm \sqrt{(-2)^2 - 4(1)(5)}$$

$$2(1)$$

$$2 \pm \sqrt{-16} \quad x = 2 \pm 4i$$

$$2$$

$$2$$

$$r = 1 \pm 2i$$

26. $x^2 - 5x + 7 = 0$

$$-(-5) \pm \sqrt{(-5)^2 - 4(1)(7)}$$

$$2(1)$$

$$5 \pm \sqrt{-3} \quad 5 \pm i\sqrt{3}$$

$$2$$

$$2$$

27. $x^2 - 5x + 6 = 0$

$$-(-5) \pm \sqrt{(-5)^2 - 4(1)(6)}$$

$$2(1)$$

$$5 \pm \sqrt{1} \quad 5 \pm 1$$

$$2$$

$$2$$

28. $2x^2 - 5x + 5 = 0$

$$-(-5) \pm \sqrt{(-5)^2 - 4(2)(5)}$$

$$2(2)$$

$$5 \pm \sqrt{-15}$$

$$4$$

29. $x^2 + 7x + 2 = 0$

$$-(-7) \pm \sqrt{(-7)^2 - 4(1)(2)}$$

$$2(1)$$

$$-7 \pm \sqrt{41}$$

$$2$$

30. $2x^2 + 7x + 6 = 0$

$$-(-7) \pm \sqrt{(-7)^2 - 4(2)(6)}$$

$$2(2)$$

$$-7 \pm \sqrt{1}$$

$$4$$

$$-7 \pm 1$$

$$4$$

31. $2x^2 + 7x + 7 = 0$

$$-(-7) \pm \sqrt{(-7)^2 - 4(2)(7)}$$

$$2(2)$$

$$-7 \pm \sqrt{-7}$$

$$4$$

$$-7 \pm i\sqrt{7}$$

$$4$$

32. $2x^2 - 7x + 6 = 0$

$$-(-7) \pm \sqrt{(-7)^2 - 4(2)(6)}$$

$$2(2)$$

$$7 \pm \sqrt{1}$$

$$4$$

$$7 \pm 1$$

$$4$$

33. $2x^2 + 7x - 6 = 0$

$$-(-7) \pm \sqrt{(-7)^2 - 4(2)(-6)}$$

$$2(2)$$

$$-7 \pm \sqrt{97}$$

$$4$$

34. $x^2 + 6x + 9 = 0$

$$(x+3)(x+3) = 0$$

$$x = -3$$

35. $m^2 + 15m + 56 = 0$

$$-(-15) \pm \sqrt{(-15)^2 - 4(1)(56)}$$

$$2(1)$$

$$-15 \pm \sqrt{1}$$

$$2$$

$$-15 \pm 1$$

$$2$$

$$36. 5x^2 - 3x + 7 = 0$$

$$\frac{-(-3) \pm \sqrt{(-3)^2 - 4(5)(7)}}{2(5)}$$

$\frac{3 \pm \sqrt{-131}}{10}$	$\frac{3 \pm i\sqrt{131}}{10}$
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$$37. x^2 - 10x + 21 = 0$$

$$\frac{-(-10) \pm \sqrt{(-10)^2 - 4(1)(21)}}{2(1)}$$

$$\frac{10 \pm \sqrt{16}}{2} \quad \frac{5 \pm 4}{2}$$

5 ± 2	$x = 7, 3$
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$$38. 6x^2 + 7x - 5 = 0$$

$$\frac{-7 \pm \sqrt{7^2 - 4(6)(-5)}}{2(6)}$$

$\frac{-7 \pm \sqrt{169}}{12}$	$\frac{-7 \pm 13}{12}$
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$$\frac{6}{12} = \frac{1}{2} \quad \frac{-20}{12} = -\frac{5}{3}$$

$x = \frac{1}{2}, -\frac{5}{3}$
