

4-5 Solving Polynomial Equations

Solve each equation.

30. $x^4 + x^2 - 90 = 0$

ANSWER:

$3, -3, \pm i\sqrt{10}$

31. $x^4 - 16x^2 - 720 = 0$

ANSWER:

$6, -6, \pm 2i\sqrt{5}$

32. $x^4 - 7x^2 - 44 = 0$

ANSWER:

$\pm\sqrt{11}, \pm 2i$

33. $x^4 + 6x^2 - 91 = 0$

ANSWER:

$\pm\sqrt{7}, \pm i\sqrt{13}$

Solve each equation.

42. $x^4 + 6x^2 + 5 = 0$

ANSWER:

$\pm i\sqrt{5}, \pm i$

43. $x^4 - 3x^2 - 10 = 0$

ANSWER:

$\pm\sqrt{5}, \pm i\sqrt{2}$

44. $4x^4 - 14x^2 + 12 = 0$

ANSWER:

$\pm\sqrt{2}, \pm\frac{\sqrt{6}}{2}$

45. $9x^4 - 27x^2 + 20 = 0$

ANSWER:

$\pm\frac{2\sqrt{3}}{3}, \pm\frac{\sqrt{15}}{3}$

46. $4x^4 - 5x^2 - 6 = 0$

ANSWER:

$\pm i\frac{\sqrt{3}}{2}, \pm\sqrt{2}$

47. $24x^4 + 14x^2 - 3 = 0$

ANSWER:

$\pm i\frac{\sqrt{3}}{2}, \pm\frac{\sqrt{6}}{6}$