

Finding roots of polynomials practice (A2 4.2)

Find all roots.

1) $f(x) = (x + 3)(x^2 + 5)$

2) $f(x) = (x^2 - 6)(x^2 + 5)$

3) $f(x) = (x + 5)(x^2 + 4)$

4) $f(x) = (x^2 + 6)(x^2 - 6)$

5) $f(x) = (x - 1)(x^2 + 1)$

6) $f(x) = (x + 3)(x^2 + 3)$

7) $f(x) = (x + 3)(x^2 + 2)$

8) $f(x) = (x^2 + 4)(x^2 + 5)$

9) $f(x) = x^4 + 3x^2 - 40$

10) $f(x) = x^4 + 3x^2 - 4$

11) $f(x) = x^5 - 9x$

12) $f(x) = x^3 + 3x^2 - x - 3$

13) $f(x) = x^4 - 49$

14) $f(x) = x^4 - 7x^2 + 12$

15) $f(x) = x^3 + 5x^2 + 5x + 25$

16) $f(x) = x^4 - x^2 - 12$

17) $f(x) = x^3 + x^2 - 5x - 5$

18) $f(x) = x^3 + 4x^2 - 3x - 12$

19) $f(x) = x^5 - 9x^3 + 18x$

20) $f(x) = x^5 + x^3 - 12x$

Answers to Finding roots of polynomials practice (A2 4.2)

- 1) $\{-3, i\sqrt{5}, -i\sqrt{5}\}$ 2) $\{\sqrt{6}, -\sqrt{6}, i\sqrt{5}, -i\sqrt{5}\}$ 3) $\{-5, 2i, -2i\}$
4) $\{i\sqrt{6}, -i\sqrt{6}, \sqrt{6}, -\sqrt{6}\}$ 5) $\{1, i, -i\}$ 6) $\{-3, i\sqrt{3}, -i\sqrt{3}\}$
7) $\{-3, i\sqrt{2}, -i\sqrt{2}\}$ 8) $\{2i, -2i, i\sqrt{5}, -i\sqrt{5}\}$ 9) $\{\sqrt{5}, -\sqrt{5}, 2i\sqrt{2}, -2i\sqrt{2}\}$
10) $\{1, -1, 2i, -2i\}$ 11) $\{0, i\sqrt{3}, -i\sqrt{3}, \sqrt{3}, -\sqrt{3}\}$ 12) $\{-3, 1, -1\}$
13) $\{\sqrt{7}, -\sqrt{7}, i\sqrt{7}, -i\sqrt{7}\}$ 14) $\{2, -2, \sqrt{3}, -\sqrt{3}\}$ 15) $\{-5, i\sqrt{5}, -i\sqrt{5}\}$
16) $\{2, -2, i\sqrt{3}, -i\sqrt{3}\}$ 17) $\{-1, \sqrt{5}, -\sqrt{5}\}$ 18) $\{-4, \sqrt{3}, -\sqrt{3}\}$
19) $\{0, \sqrt{6}, -\sqrt{6}, \sqrt{3}, -\sqrt{3}\}$ 20) $\{0, \sqrt{3}, -\sqrt{3}, 2i, -2i\}$