

Intermediate Algebra Skill

Finding the Domain: Given the Equation; Even-indexed Radical Function and Polynomial Radicand

Find the Domain.

1) $F(x) = \sqrt{x^3 + 9x^2 + 20x}$

2) $G(x) = \sqrt{x^3 + 4x^2 - 21x}$

3) $f(x) = \sqrt{6x^3 - 5x^2 - 4x}$

4) $g(x) = \sqrt{8b^3 - 10b^2 + 3b}$

5) $H(x) = \sqrt{y^4 - 26y^2 + 25}$

6) $h(x) = \sqrt{y^4 - 13y^2 + 36}$

7) $J(x) = \sqrt{x^4 - 37x^2 + 36}$

8) $j(x) = \sqrt{x^4 - 50x^2 + 49}$

9) $K(x) = \sqrt{6x^3 - x^2 - 2x}$

10) $k(x) = \sqrt{2x^3 + 3x^2 - 2x}$

Answers to Finding the Domain: Given the Equation; Even-indexed Radical Function and Polynomial Radicand

1) $[-5, -4] \cup [0, \infty)$

2) $[-7, 0] \cup [3, \infty)$

3) $\left[-\frac{1}{2}, 0\right] \cup \left[\frac{4}{3}, \infty\right)$

4) $\left[0, \frac{1}{2}\right] \cup \left[\frac{3}{4}, \infty\right)$

5) $(-\infty, -5] \cup [-1, 1] \cup [5, \infty)$

6) $(-\infty, -3] \cup [-2, 2] \cup [3, \infty)$

7) $(-\infty, -6] \cup [-1, 1] \cup [6, \infty)$

8) $(-\infty, -7] \cup [-1, 1] \cup (7, \infty]$

9) $\left[-\frac{1}{2}, 0\right] \cup \left[\frac{2}{3}, \infty\right)$

10) $[-2, 0] \cup \left[\frac{1}{2}, \infty\right)$