*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) $\left[-5,-4\right]\cup\left[0,\infty\right)$

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

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

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

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

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

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

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

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

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