BECA / Huson / Algebra 2: Polynomials Jan 2023 Regents Name:
23 December 2023

Regents problems: Polynomials

1. Given $x > 0$, the expression $\frac{x^{\frac{1}{5}}}{x^{\frac{1}{2}}}$ can be rewritten as
   (a) $\sqrt[3]{x}$
   (b) $-\sqrt[10]{x^3}$
   (c) $\frac{1}{\sqrt[10]{x^3}}$
   (d) $\sqrt[3]{x^{10}}$

rewrite Given $x > 0$, the expression $\frac{1}{\sqrt[3]{x^2}-1}$ can be rewritten as
   (a) $\frac{1}{\sqrt[3]{x}-1}$
   (b) $\frac{1}{\sqrt[3]{x}+1}$
   (c) $\frac{1}{\sqrt{x}-1}$
   (d) $\frac{1}{\sqrt{x}+1}$

2. Given $a > 0$, solve the equation $a^{x+1} = \sqrt[3]{a^2}$ for x algebraically.

3. Solve the equation $\sqrt{49 - 10x} + 5 = 2x$ algebraically.