

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

**Regents problems: Exponents**

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.