

Skills:

Identify square and cube expressions using variables:

$$(5)(5) = 5^2 \text{ so } \sqrt{5^2} = 5$$

$$(x)(x) = x^2 \text{ so } \sqrt{x^2} = x$$

$$(x^2)(x^2) = x^4 \text{ so } \sqrt{x^4} = x^2$$

$$\sqrt[3]{5^3} = 5$$

$$\sqrt[3]{x^3} = x$$

Outcome: Express as mixed radicals in simplest form.

Outcome: Determine the restrictions on the variable.

Express as a radical in simplest form.

1. $\sqrt{18x^3}$

2. $\sqrt{8x^5}$

3. $3x\sqrt{49x^7}$

4. $\sqrt[3]{24x^7}$

Add and Subtract, Multiply, Divide. Restrictions.

1. $5\sqrt{x} + 2\sqrt{x}$

2. $(2\sqrt{x} + 3)(3\sqrt{x} - 5)$

3. $\frac{15\sqrt{6x^3}}{3\sqrt{2x}}$

4. $\frac{6\sqrt{5} - \sqrt{24x^3}}{2\sqrt{x}}$