

Simplifying Radicals 9/19
 Radical form \longrightarrow exponential form

$$\sqrt[2]{x^2} = x^{\frac{2}{2}} = x$$

$$= \boxed{x}$$

$$\sqrt{x^8} = x^{\frac{8}{2}} = \boxed{x^4}$$

check:

$$x^4 \cdot x^4 = x^8$$

$$\sqrt{x^4} = x^2$$

$$\sqrt{x^5}$$

$$\sqrt{x^4 \cdot x^1}$$

$$\boxed{x^2 \sqrt{x}}$$

Simplify:

$$\sqrt{x^2 y^3}$$

$$\sqrt{x^2 y^2 y}$$
$$x^{2/2} y^{2/2}$$

$$xy\sqrt{y}$$



Simplify:

$$\sqrt{x^5 y^8}$$

$$\sqrt{\cancel{x^4} \cancel{x} y^8}$$

$$x^2 y^4 \sqrt{x}$$



Simplify:

$$\sqrt{36x^7y^3}$$

$$\sqrt{\cancel{36} \cancel{x^6} \cancel{x} \cancel{y^2} y}$$

$$6x^3y\sqrt{xy}$$



$$\sqrt{18x^6}$$

$$\sqrt{\cancel{9} \cdot \cancel{2} x^6}$$

$$3x^3\sqrt{2}$$