

Simplify

sqR

$$\sqrt{75x^3}$$

$$\sqrt{\cancel{25} \cdot 3 \cdot \cancel{x^2} \cdot x}$$

$$5x\sqrt{3x}$$

$$\left(\underline{4x^2y^4} \sqrt{8x^6y} \right) \left(\underline{-4xy^{24}} \sqrt{2x^7y^8} \right)$$

$$\begin{array}{l}
 -16x^3y^3 \sqrt[4]{16x^{13}y^9} \\
 -16x^3y^3 \cdot 2x^3 \cdot 4x^4 \cdot 2x^4 \cdot x^{12} \cdot y^8 \cdot y \\
 -32x^4y^5 \sqrt{xy}
 \end{array}$$

$$X + X = 2X$$

$$\sqrt{X} + \sqrt{X} = 2\sqrt{X}$$

12.4 Day 1
adding &
subtraction

$$\begin{array}{l} \sqrt{X} + \sqrt[3]{X} \\ \sqrt{X} + \sqrt{y} \end{array} \left. \vphantom{\begin{array}{l} \sqrt{X} + \sqrt[3]{X} \\ \sqrt{X} + \sqrt{y} \end{array}} \right\} \text{not like terms}$$

$$2 \sqrt[3]{xy} + 7 \sqrt[3]{xy} = 9 \sqrt[3]{xy}$$

add

$$3x \sqrt[5]{x^2y} + 5 \sqrt[5]{x^2y}$$

factored $\sqrt[5]{x^2y} (3x + 5)$

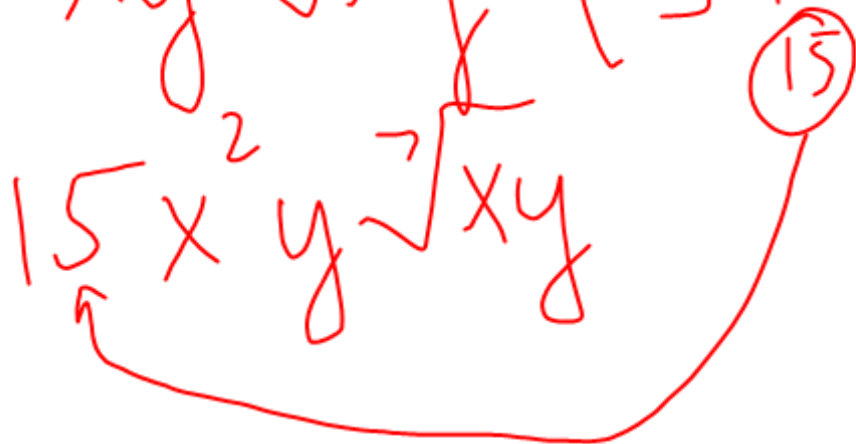
are like

$$3x^2y \sqrt[3]{xy} + 12x^2y \sqrt[3]{xy}$$

$$xy \sqrt[3]{xy} (3 + 12)$$

Book method

$$15x^2y \sqrt[3]{xy}$$



$$\sqrt{3} + \sqrt{27}$$

\uparrow
 $(9) \cdot 3$

$$1\sqrt{3} + 3\sqrt{3}$$

$$(4\sqrt{3})$$

$$2.7\sqrt{12} + \sqrt{75}$$

\uparrow
 $(4) \cdot 3$

\uparrow
 $(25) \cdot 3$

$$14\sqrt{3} + 5\sqrt{3}$$

$$19\sqrt{3}$$

$$5 \sqrt[3]{16} + \sqrt[3]{54} \quad \text{add}$$
$$\begin{array}{c} \text{8} \cdot 2 \\ \uparrow \\ \sqrt[3]{16} \end{array} \quad \begin{array}{c} \text{27} \cdot 2 \\ \uparrow \\ \sqrt[3]{54} \end{array}$$
$$5 \cdot 2 \sqrt[3]{2} + 3 \sqrt[3]{2}$$
$$10 \sqrt[3]{2} + 3 \sqrt[3]{2}$$
$$\textcircled{13 \sqrt[3]{2}}$$

add

$$\begin{array}{l}
 \sqrt[3]{84x^4} \\
 \hline
 \sqrt[3]{2 \cdot 2 \cdot 2 \cdot x \cdot 2} \\
 \hline
 2\sqrt[3]{2x}
 \end{array}
 +
 \begin{array}{l}
 y\sqrt[3]{28x} \\
 \hline
 y\sqrt[3]{4 \cdot 2 \cdot x} \\
 \hline
 4y\sqrt[3]{2x}
 \end{array}$$

$$\underline{\underline{6y\sqrt[3]{2x}}}$$

Subtract

$$\begin{array}{l}
 \sqrt[3]{32x} - 2\sqrt[3]{18x} \\
 \hline
 \sqrt[3]{16 \cdot 2x} - 2\sqrt[3]{9 \cdot 2x} \\
 \hline
 3 \cdot 4\sqrt[3]{2x} - 2 \cdot 3\sqrt[3]{2x}
 \end{array}$$

$$12\sqrt[3]{2x} - 6\sqrt[3]{2x}$$

$$\underline{\underline{6\sqrt[3]{2x}}}$$

$$\sqrt{9(x-2)} \rightarrow (\sqrt{9})\sqrt{x-2}$$

$$\sqrt{9x-18} + \sqrt{x-2}$$

$$3\sqrt{x \cdot 9 \cdot 2}$$

$$3\sqrt{x-2} + \sqrt{x-2}$$

~~$$7\sqrt{x-2}$$~~

$$3\sqrt{x-2} + 1\sqrt{x-2}$$

$$4\sqrt{x-2}$$

sex
rew

and

$$2 \sqrt[3]{4y^2} + 5x \sqrt[3]{xy^2}$$

$$2x \sqrt[3]{xy^2} + 5x \sqrt[3]{xy^2}$$

$$7x \sqrt[3]{xy^2}$$

