



## Radicals - Adding and Subtracting - Simplification (Values and Variables)

1 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{12n^3q^2} + \sqrt{12n^3q^2} - \sqrt{75}$$

A  $2nq\sqrt{3n} + 2n^3q^3\sqrt{5n^3} - 5\sqrt{3}$

B  $2nq\sqrt{3n} + 2nq\sqrt{3n} - 5\sqrt{3}$

2 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{112z^4q^3} + \sqrt{63z^3q^2} + \sqrt{28z^4q^3}$$

A  $4z^2q\sqrt{7q} + 3zq\sqrt{7z} + 2z^2q\sqrt{7q}$

B  $7z^4q^2\sqrt{10q^2} + zq\sqrt{7z} + 2z^2q\sqrt{7q}$

3 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{112} - \sqrt{18n^4p^4} + \sqrt{28}$$

A  $4\sqrt{7} - 3n^2p^2\sqrt{2} + 2\sqrt{7}$

B  $\sqrt{9} - 3n^2p^2\sqrt{2} + 2\sqrt{7}$

4 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{48w^3x^2} - \sqrt{75x^2} + \sqrt{27w^3x^2}$$

A  $4wx\sqrt{3w} - 5x\sqrt{3} + 3wx\sqrt{3w}$

B  $wx\sqrt{6w} - 5x\sqrt{3} + 2wx\sqrt{5w}$

5 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt[3]{54w} + \sqrt[3]{128w} + \sqrt[3]{320w^2n}$$

A  $3\sqrt[3]{2w} + 4\sqrt[3]{2w} + \sqrt[3]{8w^4n}$

B  $3\sqrt[3]{2w} + 4\sqrt[3]{2w} + 4\sqrt[3]{5w^2n}$

6 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{175m} + \sqrt{80y^2m^4} - \sqrt{112m}$$

A  $5\sqrt{7m} + 2ym^4\sqrt{8} - 4\sqrt{7m}$

B  $5\sqrt{7m} + 4ym^2\sqrt{5} - 4\sqrt{7m}$

7 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt{112y} - \sqrt{175y} - \sqrt{112n^4y^4}$$

A  $3\sqrt{7y} - 5\sqrt{7y} - 7n^4y^4\sqrt{3}$

B  $4\sqrt{7y} - 5\sqrt{7y} - 4n^2y^2\sqrt{7}$

8 Simplify the radical expressions to prepare for adding or subtracting

$$\sqrt[3]{54y} + \sqrt[3]{40x^3y} - \sqrt[3]{40x^3y}$$

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

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