



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

1 Simplify, then add or subtract the radical expressions

$$\sqrt{275m^4y^4} + \sqrt{63m^3y^4} + \sqrt{44m^4y^4}$$

A  $4m^2y\sqrt{12} + m^2y^3\sqrt{5m} + 3my^3\sqrt{10}$

B  $7m^2y^2\sqrt{11} + 3my^2\sqrt{7m}$

2 Simplify, then add or subtract the radical expressions

$$\sqrt[3]{189t^2} + \sqrt[3]{448t^2} + \sqrt[3]{448t^2r^4}$$

A  $\sqrt[3]{5t} + 2\sqrt[3]{3t} + 5r\sqrt[3]{6t^4r}$

B  $7\sqrt[3]{7t^2} + 4r\sqrt[3]{7t^2r}$

3 Simplify, then add or subtract the radical expressions

$$\sqrt[3]{24mr^2} - \sqrt[3]{40m^3r^3} + \sqrt[3]{135m^3r^3}$$

A  $2\sqrt[3]{3mr^2} - mr\sqrt[3]{5}$

B  $2\sqrt[3]{3mr^2} + mr\sqrt[3]{5}$

4 Simplify, then add or subtract the radical expressions

$$\sqrt[3]{56t^2n^2} + \sqrt[3]{24t^3n^2} + \sqrt[3]{448t^2n^2}$$

A  $6\sqrt[3]{7t^2n^2} + 2t\sqrt[3]{3n^2}$

B  $\sqrt[3]{7t^2n^2} + 2t\sqrt[3]{3n^2}$

5 Simplify, then add or subtract the radical expressions

$$\sqrt{63q^3} - \sqrt{175q^3} - \sqrt{44z^2q^3}$$

A  $-2q\sqrt{7q} - 2zq\sqrt{11q}$

B  $-2\sqrt{7q} - 2zq\sqrt{11q}$

6 Simplify, then add or subtract the radical expressions

$$\sqrt{99r^2n^2} - \sqrt{50r^2} - \sqrt{44r^2n^2}$$

A  $rn\sqrt{11} - 5r\sqrt{2}$

B  $2r^2n^2\sqrt{14} - 4r - 3rn\sqrt{8}$

7 Simplify, then add or subtract the radical expressions

$$\sqrt[3]{88x^3y^4} - \sqrt[3]{704x^3y^4} - \sqrt[3]{128x^3y^2}$$

A  $-2xy\sqrt[3]{11y} - 4x\sqrt[3]{2y^2}$

B  $-2xy^3\sqrt[3]{11y} - 4x\sqrt[3]{2y^2}$

8 Simplify, then add or subtract the radical expressions

$$\sqrt{80p^4} - \sqrt{80p^4} + \sqrt{50y^3p^4}$$

A  $5yp^2\sqrt{2y}$

B  $p^2\sqrt{5} + 5yp^2\sqrt{2y}$