

Name: .....

Date: ..... Score: .....

## Add and Subtract Radical Expressions with Variables

Simplify by Combining Like terms

1  $-\sqrt[3]{2a^3} - \sqrt{8a}$

2  $\sqrt[6]{6p} - \sqrt{54y}$

3  $\sqrt[m]{45b^3} + 4b\sqrt{20m^2b}$

4  $-3\sqrt{2np} + 2\sqrt{2np}$

5  $5\sqrt{3y^3} + 2\sqrt{27y}$

6  $\sqrt{8pq^2} + 2q\sqrt{18p}$

7  $\sqrt[3]{6x^2} - \sqrt{20x^3} + 2x\sqrt{45x}$

8  $5\sqrt{2y^2} - 3y\sqrt{8}$

9  $5\sqrt{3b} + 2\sqrt{3b} + 4\sqrt{3b}$

10  $2\sqrt{5q} + 5\sqrt{5q} - 2\sqrt{5q}$

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### Answers

1  $-\sqrt[3]{2a^3} - \sqrt{8a}$

2  $\sqrt[6]{6p} - \sqrt{54y}$

$-\sqrt[3]{2a^3} - 2\sqrt{2a}$

$\sqrt[6]{6p} - 3\sqrt{6y}$

3  $\sqrt[m]{45b^3} + 4b\sqrt{20m^2b}$

4  $-3\sqrt{2np} + 2\sqrt{2np}$

$3b\sqrt[m]{5} + 8mb\sqrt{5b}$

$-1\sqrt{2np}$

5  $5\sqrt{3y^3} + 2\sqrt{27y}$

6  $\sqrt{8pq^2} + 2q\sqrt{18p}$

$(5y + 6)\sqrt{3y}$

$8q\sqrt{2p}$

7  $\sqrt[3]{6x^2} - \sqrt{20x^3} + 2x\sqrt{45x}$

8  $5\sqrt{2y^2} - 3y\sqrt{8}$

$\sqrt[3]{6x^2} + 4x\sqrt{5x}$

$-y\sqrt{2}$

9  $5\sqrt{3b} + 2\sqrt{3b} + 4\sqrt{3b}$

10  $2\sqrt{5q} + 5\sqrt{5q} - 2\sqrt{5q}$

$11\sqrt{3b}$

$5\sqrt{5q}$