

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Score: \_\_\_\_\_

## Radical Expressions Worksheet

Simplify

1  $\sqrt[3]{125p^6q^3}$

2  $\sqrt[3]{56x^5y}$

3  $\frac{8\sqrt{117}}{2\sqrt{52}}$

4  $-147 - \sqrt{243}$

5  $3\sqrt{18} + 3\sqrt{12} + 2\sqrt{27}$

6  $\sqrt[3]{7} \cdot \sqrt[3]{8}$

7  $2\sqrt{50} + 3\sqrt{18} - \sqrt{32}$

8  $2\sqrt{20} - \sqrt{20} + 3\sqrt{20} - 2\sqrt{45}$

9  $\frac{3}{4 + 4\sqrt{5}}$

10  $\frac{\sqrt{3x^2y^3}}{4\sqrt{5xy^3}}$

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### Answers

$$\boxed{1} \quad \sqrt[3]{125p^6q^3}$$

$$\boxed{2} \quad \sqrt[3]{56x^5y}$$

$$\boxed{3} \quad \frac{5p^2q}{\frac{8\sqrt{117}}{2\sqrt{52}}}$$

$$\boxed{4} \quad \frac{2x\sqrt[3]{x^2y}}{-147 - \sqrt{243}}$$

$$\boxed{5} \quad \frac{6}{3\sqrt{18} + 3\sqrt{12} + 2\sqrt{27}}$$

$$\boxed{6} \quad \frac{-16\sqrt{3}}{\sqrt[3]{7} \cdot \sqrt[3]{8}}$$

$$\boxed{7} \quad \frac{9\sqrt{2} + 12\sqrt{3}}{2\sqrt{50} + 3\sqrt{18} - \sqrt{32}}$$

$$\boxed{8} \quad \frac{2\sqrt[3]{7}}{2\sqrt{20} - \sqrt{20} + 3\sqrt{20} - 2\sqrt{45}}$$

$$\boxed{9} \quad \frac{15\sqrt{2}}{\frac{3}{4 + 4\sqrt{5}}}$$

$$\boxed{10} \quad \frac{2\sqrt{5}}{\frac{\sqrt{3x^2y^3}}{4\sqrt{5xy^3}}}$$

$$\frac{-3 + 3\sqrt{5}}{16}$$

$$\frac{\sqrt{15x}}{20}$$