

Simplifying Radicals Exit Quiz

1. Perform the indicated operations and simplify your answer. Assume that all variables represent positive real numbers.

1. $\sqrt{\frac{12a^3}{36b^2}} =$

2. $\sqrt[3]{135x^5} =$

3. $\frac{2}{\sqrt{5}} =$

4. $\sqrt{108x^5y^8} =$

2. MULTIPLE CHOICE: Simplify (Show Work!)

5. $\frac{3}{5 - \sqrt{5}} =$

a.) $\frac{15 + 3\sqrt{5}}{20}$

b.) $\frac{15 + \sqrt{5}}{20}$

c.) $\frac{15 + \sqrt{15}}{20}$

d.) $\frac{15 - 3\sqrt{5}}{20}$

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ANSWERS

1. Perform the indicated operations and simplify your answer. Assume that all variables represent positive real numbers

$$1. \quad \sqrt{\frac{12a^3}{36b^2}} = \frac{\sqrt{2^2 * 3 * a^2 * a}}{\sqrt{6^2 * b^2}} = \frac{2a\sqrt{3a}}{6b} = \frac{a\sqrt{3a}}{3b}$$

$$2. \quad \sqrt[3]{135x^5} = \sqrt[3]{3^3 * 5 * x^3 * x^2} = 3x\sqrt[3]{5x^2}$$

$$3. \quad \frac{2}{\sqrt{5}} = \frac{2}{\sqrt{5}} * \frac{\sqrt{5}}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$$

$$4. \quad \sqrt{108x^5y^8} = \sqrt{6^2 * 3 * x * (x^2)^2(y^4)^2} = 6x^2y^4\sqrt{3x}$$

2. MULTIPLE CHOICE: Simplify

$$5. \quad \frac{3}{5 - \sqrt{5}} =$$

$$a.) \quad \frac{15 + 3\sqrt{5}}{20}$$

$$b.) \quad \frac{15 + \sqrt{5}}{20}$$

$$c.) \quad \frac{15 + \sqrt{15}}{20}$$

$$d.) \quad \frac{15 - 3\sqrt{5}}{20}$$