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. $\dfrac{2}{\sqrt{5}} =$

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

2. MULTIPLE CHOICE: Simplify (Show Work!)

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

$a.)\ \dfrac{15 + 3\sqrt{5}}{20}$ $b.)\ \dfrac{15 + \sqrt{5}}{20}$ $c.)\ \dfrac{15 + \sqrt{15}}{20}$ $d.)\ \dfrac{15 - 3\sqrt{5}}{20}$

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

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

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

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

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

2. MULTIPLE CHOICE: Simplify

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

   $a.)$ $\boxed{\dfrac{15 + 3\sqrt{5}}{20}}$ $b.)$ $\dfrac{15 + \sqrt{5}}{20}$ $c.)$ $\dfrac{15 + \sqrt{15}}{20}$ $d.)$ $\dfrac{15 - 3\sqrt{5}}{20}$