Name: _____ Period: _____ Date: _____

Operations with Radical Expressions Exit Quiz

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

1. $\sqrt{\frac{12a^3}{6b}} + 4a\sqrt{\frac{3a}{6b}} =$

2. $\sqrt{\frac{a}{2}} + \frac{\sqrt{2a}}{2} =$

3. $\frac{\sqrt{7}}{3} + \frac{2}{\sqrt{7}} =$

4. $\sqrt{169z} - \sqrt{196z^3} - 12\sqrt{z} =$

5. MULTIPLE CHOICE: Show work!

The expression $\left(\sqrt{x} + \sqrt{y}\right)^2$ is equivalent to:

$a.)$ $\left(\sqrt{x} + \sqrt{y}\right)\left(\sqrt{x} - \sqrt{y}\right)$

$b.)$ $x + y$

$c.)$ $x + 2\sqrt{xy} + y$

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Operations with Radical Expressions Exit Quiz

ANSWERS

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

2. $\sqrt{\frac{12a^3}{6b}} + 4a\sqrt{\frac{3a}{6b}} = 2a\sqrt{\frac{3a}{6b}} + 4a\sqrt{\frac{3a}{6b}} = 6a\sqrt{\frac{3a}{6b}} = 6a\frac{\sqrt{a}}{\sqrt{2b}} * \frac{\sqrt{2b}}{\sqrt{2b}} = \frac{6a}{2a}\sqrt{2ab} = 3\sqrt{2ab}$

2. $\sqrt{\frac{a}{2}} + \frac{\sqrt{2a}}{2} = \frac{\sqrt{a}}{\sqrt{2}} * \frac{\sqrt{2}}{\sqrt{2}} + \frac{\sqrt{2a}}{2} = \frac{\sqrt{2a}}{2} + \frac{\sqrt{2a}}{2} = \frac{2\sqrt{2a}}{2} = \sqrt{2a}$

3. $\frac{\sqrt{7}}{3} + \frac{2}{\sqrt{7}} = \frac{\sqrt{7}}{3} + \frac{2}{\sqrt{7}} * \frac{\sqrt{7}}{\sqrt{7}} = \frac{\sqrt{7}}{3} + \frac{2\sqrt{7}}{7} = \frac{7\sqrt{7}}{21} + \frac{6\sqrt{7}}{21} = \frac{13\sqrt{7}}{21}$

4. $\sqrt{169z} - \sqrt{196z^3} - 12\sqrt{z} = 13\sqrt{z} - 14z\sqrt{z} - 12\sqrt{z} = \sqrt{z} - 14z\sqrt{z}$

5. MULTIPLE CHOICE

The expression $(\sqrt{x} + \sqrt{y})^2$ is equivalent to:

$a.)$ $(\sqrt{x} + \sqrt{y})(\sqrt{x} - \sqrt{y})$

$b.)$ $x + y$

$c.)$ $x + 2\sqrt{xy} + y$