

# Radical Arithmetic Answer Key

## *I Got Arithm*

Simplify. The answer should not have radicals in the denominator.

1.  $6\sqrt{27} + \sqrt{3}$

$$19\sqrt{3}$$

2.  $3\sqrt{90} - 4\sqrt{160}$

$$-7\sqrt{10}$$

3.  $2\sqrt{11} - \sqrt{121} + 5\sqrt{11}$

$$7\sqrt{11} - 11$$

4.  $\frac{\sqrt{5x} + \sqrt{13x}}{\sqrt{x}}$

$$3\sqrt{2}$$

5.  $\frac{\sqrt{(5)^2 - (3)^2}}{\sqrt{5}}$

$$\frac{4\sqrt{5}}{5}$$

6.  $\frac{1+\sqrt{2}}{1-\sqrt{2}}$

$$-(3 + 2\sqrt{2})$$

7.  $\sqrt{x^2y}\sqrt{y + \frac{1}{y}}$

$$x\sqrt{y^2 + 1}$$

8.  $(\sqrt{3} + \sqrt{4})(\sqrt{8} - \sqrt{2})$

$$\sqrt{6} + \sqrt{8}$$

9.  $\frac{\sqrt{9x}}{6+\sqrt{x}}$

$$\frac{3(6\sqrt{x}-x)}{36-x}$$

10.  $\frac{\sqrt{a}-\sqrt{b}}{\sqrt{a}+\sqrt{b}}$

$$\frac{a+b-2\sqrt{ab}}{a-b}$$

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