

Solving Quadratic Equations by Finding Square Roots Date _____ Period _____

Simplify.

1) $-2\sqrt{36}$

2) $8\sqrt{32}$

3) $3\sqrt{20}$

4) $-6\sqrt{80}$

5) $4\sqrt{96}$

6) $-2\sqrt{20} - \sqrt{18} - \sqrt{8} - 3\sqrt{5}$

7) $-2\sqrt{27} - 2\sqrt{3} - \sqrt{5} + 2\sqrt{54}$

8) $-3\sqrt{5} - \sqrt{3} - \sqrt{20} + 3\sqrt{45}$

9) $-\sqrt{6} - 2\sqrt{45} - \sqrt{27} - 3\sqrt{24}$

10) $3\sqrt{3} + 2\sqrt{6} - 2\sqrt{20} - 3\sqrt{54}$

11) $-2\sqrt{10}(5\sqrt{5} + \sqrt{2})$

12) $-2\sqrt{10}(\sqrt{6} - 5\sqrt{10})$

13) $\sqrt{6}(\sqrt{2} + \sqrt{6})$

14) $\sqrt{6}(-5\sqrt{6} + \sqrt{2})$

15) $\sqrt{15}(4 - 4\sqrt{5})$

16) $\frac{\sqrt{6}}{2\sqrt{32}}$

$$17) \frac{4\sqrt{15}}{\sqrt{80}}$$

$$18) \frac{\sqrt{2}}{3\sqrt{8}}$$

$$19) \frac{\sqrt{2}}{4 + 4\sqrt{5}}$$

$$20) \frac{4}{5 - \sqrt{5}}$$

$$21) \frac{4}{\sqrt{2} + 3}$$

$$22) \frac{2 - 4\sqrt{5}}{5 - \sqrt{5}}$$

$$23) \frac{\sqrt{3} + 3}{4 + 4\sqrt{3}}$$

$$24) \frac{-5 + \sqrt{2}}{\sqrt{2} + 3}$$

Solve each equation by taking square roots.

$$25) 100r^2 - 5 = 44$$

$$26) 64v^2 - 3 = 22$$

$$27) 100k^2 + 6 = 10$$

$$28) 4n^2 + 1 = 82$$

$$29) 81b^2 - 3 = 13$$

$$30) 16n^2 - 7 = 2$$