

9.2: Radical Review

Name: Answer Key

Simplify the radical expressions.

1. $\sqrt{48}$ $2 \cdot 2\sqrt{3}$
 $4\sqrt{3}$

2. $\sqrt{27} = 3\sqrt{3}$

2. $\sqrt{36} = 6$

4. $\sqrt{-125}$
 NOT POSSIBLE
 NO SOLUTION

5. $\sqrt{288}$ $12\sqrt{2}$
 $2 \cdot 3 \cdot 2\sqrt{2}$

6. $-\sqrt{600}$ $-2 \cdot 5\sqrt{2 \cdot 3}$
 $-10\sqrt{6}$

7. $2\sqrt{150}$ $2 \cdot 5\sqrt{2 \cdot 3}$
 $10\sqrt{6}$

8. $\sqrt{7}$

9. $-\sqrt{180}$ $-2 \cdot 3\sqrt{5}$
 $-6\sqrt{5}$

10. $\sqrt{450}$ $3 \cdot 5\sqrt{2}$
 $15\sqrt{2}$

11. $\sqrt{\frac{8}{100}} = \frac{\sqrt{2}}{\sqrt{25}} = \frac{\sqrt{2}}{5}$

12. $\sqrt{\frac{6}{27}} = \frac{\sqrt{2}}{\sqrt{9}} = \frac{\sqrt{2}}{3}$

13. $\sqrt{\frac{9}{25}} = \frac{\sqrt{9}}{\sqrt{25}} = \frac{3}{5}$

14. $\sqrt{\frac{12}{4}} = \sqrt{3}$

$$15. \sqrt{\frac{8}{100}} = \frac{\sqrt{2}}{\sqrt{25}} = \frac{\sqrt{2}}{5}$$

$$16. \sqrt{\frac{32}{49}} = \frac{\sqrt{32}}{7} = \frac{4\sqrt{2}}{7}$$

$$17. -\sqrt{\frac{98}{50}} = -\sqrt{\frac{49}{25}} = -\frac{7}{5}$$

$$18. 5\sqrt{\frac{1}{81}} = \frac{5}{9}$$

$$19. \sqrt{\frac{18}{243}} = \sqrt{\frac{2}{27}} = \frac{\sqrt{2}}{\sqrt{27}} = \frac{\sqrt{2}}{3\sqrt{3}} = \frac{\sqrt{2}\sqrt{3}}{3\sqrt{3}\sqrt{3}} = \frac{\sqrt{6}}{9}$$

$$20. \frac{\sqrt{54}}{3} = \frac{3\sqrt{6}}{3} = \sqrt{6}$$

$$21. \sqrt{6} \cdot 4\sqrt{6} = 4 \cdot 6 = 24$$

$$22. -\sqrt{5} \cdot \sqrt{20} = -5 \cdot 2 = -10$$

$$23. \sqrt{12} \cdot \sqrt{15} = 2 \cdot 3 \sqrt{5} = 6\sqrt{5}$$

$$24. 4\sqrt{8} \cdot \sqrt{2} = 4 \cdot 2 \cdot 2 = 16$$

$$25. \frac{1}{4}\sqrt{24} = \frac{1 \cdot 2 \cdot \sqrt{6}}{4} = \frac{\sqrt{6}}{2}$$

$$26. \sqrt{96} \cdot \sqrt{6} \cdot \sqrt{3} = 4 \cdot 2 \cdot 2 \cdot 3 = 24\sqrt{3}$$

$$27. \sqrt{242} \cdot \sqrt{9} = 3 \cdot 11 \cdot \sqrt{2} = 33\sqrt{2}$$

$$28. \sqrt{2} \cdot \sqrt{3} \cdot \sqrt{5} = \sqrt{30}$$

$$29. \sqrt{1} \cdot \sqrt{144} = 12$$

$$30. \sqrt{30} \cdot \sqrt{81} \cdot \sqrt{27} = 3 \cdot 3 \cdot 3 \cdot 3 \sqrt{2 \cdot 5} = 81\sqrt{10}$$