

Simplifying a Radical

$$\sqrt{12}$$

$$\boxed{2\sqrt{3}}$$

$$\sqrt{96}$$

$$\boxed{4\sqrt{6}}$$

$$\sqrt{48}$$

$$\boxed{4\sqrt{3}}$$

Rationalizing a Denominator Examples

$$\frac{3}{\sqrt{20}} \cdot \frac{\sqrt{20}}{\sqrt{20}}$$

$$\frac{3\sqrt{20}}{20}$$

$$\frac{3 \cdot 2\sqrt{5}}{20}$$

$$\frac{6\sqrt{5}}{20} =$$

$$\boxed{\frac{3\sqrt{5}}{10}}$$

$$\sqrt{20} = 2\sqrt{5}$$

$$\frac{\sqrt{5}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$\boxed{\frac{\sqrt{10}}{2}}$$

$$\sqrt{\frac{18}{12}} = \sqrt{\frac{9}{6}} = \sqrt{\frac{3}{2}}$$

$$\frac{\sqrt{3}}{\sqrt{2}} \cdot \frac{\sqrt{2}}{\sqrt{2}}$$

$$\boxed{\frac{\sqrt{6}}{2}}$$

$$\frac{2\sqrt{6}}{3\sqrt{8}} = \frac{2\sqrt{3}}{3\sqrt{4}} = \frac{2\sqrt{3}}{3 \cdot 2}$$

$$= \frac{2\sqrt{3}}{6}$$

$$= \boxed{\frac{\sqrt{3}}{3}}$$

$$\frac{4}{4-\sqrt{2}} \cdot \frac{4+\sqrt{2}}{4+\sqrt{2}}$$

$$\frac{16+4\sqrt{2}}{16+4\sqrt{2}-4\sqrt{2}-\sqrt{4}}$$

$$\frac{16+4\sqrt{2}}{16-2}$$

$$\frac{16+4\sqrt{2}}{14} = \boxed{\frac{8+2\sqrt{2}}{7}}$$

$$\frac{2\sqrt{3}}{1+\sqrt{3}} \cdot \frac{1-\sqrt{3}}{1-\sqrt{3}}$$

$$\frac{2\sqrt{3}-2 \cdot 3}{1-3}$$

$$\frac{2\sqrt{3}-6}{-2}$$

$$\frac{-1\sqrt{3}+3}{\boxed{3-\sqrt{3}}}$$

**SKILL
8****Prerequisite Skills Practice****Rationalizing a Denominator***Simplify.*

1. $\frac{1}{\sqrt{3}}$

2. $\frac{\sqrt{8}}{\sqrt{3}}$

3. $\sqrt{\frac{24}{32}}$

4. $\frac{3\sqrt{2}}{\sqrt{14}}$

5. $\frac{3\sqrt{15}}{\sqrt{20}}$

6. $\sqrt{\frac{9}{40}}$

7. $\frac{6}{\sqrt{12}}$

8. $\frac{3}{\sqrt{28}}$

9. $6\sqrt{\frac{20}{42}}$

10. $\frac{8\sqrt{7}}{\sqrt{24}}$

11. $\frac{5\sqrt{2}}{6\sqrt{8}}$

12. $\frac{8\sqrt{2}}{9\sqrt{3}}$

13. $\frac{\sqrt{7}}{\sqrt{5}}$

14. $\frac{6\sqrt{40}}{\sqrt{5}}$

15. $\frac{12\sqrt{12}}{8\sqrt{8}}$

16. $\frac{3\sqrt{28}}{\sqrt{3}}$

17. $\sqrt{\frac{20}{36}}$

18. $10\sqrt{\frac{9}{10}}$

19. $\frac{1}{1+\sqrt{3}}$

20. $\frac{3}{2-\sqrt{2}}$

21. $\frac{4}{5+\sqrt{5}}$

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

23. $\frac{7}{1+4\sqrt{5}}$

24. $\frac{3\sqrt{2}}{1+\sqrt{2}}$