

Algebra 2 Worksheet Radicals

Simplify

1. $\sqrt{24}$

$$\frac{\sqrt{4 \cdot 6}}{2\sqrt{6}}$$

2. $\sqrt{27}$

$$\frac{\sqrt{9 \cdot 3}}{3\sqrt{3}}$$

3. $\sqrt{32}$

$$\frac{\sqrt{16 \cdot 2}}{4\sqrt{2}}$$

4. $\sqrt{75}$

$$\frac{\sqrt{25 \cdot 3}}{5\sqrt{3}}$$

5. $\sqrt{72}$

$$\frac{\sqrt{36 \cdot 2}}{6\sqrt{2}}$$

6. $\sqrt{98}$

$$\frac{\sqrt{49 \cdot 2}}{7\sqrt{2}}$$

7. $\sqrt{108}$

$$\frac{\sqrt{36 \cdot 3}}{6\sqrt{3}}$$

8. $\sqrt{300}$

$$\frac{\sqrt{100 \cdot 3}}{10\sqrt{3}}$$

9. $\sqrt{128}$

$$\frac{\sqrt{64 \cdot 2}}{8\sqrt{2}}$$

10. $\sqrt{44}$

$$\frac{\sqrt{4 \cdot 11}}{2\sqrt{11}}$$

11. $\sqrt{45}$

$$\frac{\sqrt{9 \cdot 5}}{3\sqrt{5}}$$

12. $\sqrt{48}$

$$\frac{\sqrt{16 \cdot 3}}{4\sqrt{3}}$$

13. $\sqrt{54}$

$$\frac{\sqrt{9 \cdot 6}}{3\sqrt{6}}$$

14. $\sqrt{150}$

$$\frac{\sqrt{25 \cdot 6}}{5\sqrt{6}}$$

15. $\sqrt{180}$

$$\frac{\sqrt{36 \cdot 5}}{6\sqrt{5}}$$

16. $\sqrt{216}$

$$\frac{\sqrt{36 \cdot 6}}{6\sqrt{6}}$$

17. $\frac{6 \pm \sqrt{60}}{2}$

$$\frac{6 \pm \sqrt{4 \cdot 15}}{2}$$

$$\frac{6 \pm 2\sqrt{15}}{2} = 3 \pm \sqrt{15}$$

18. $\frac{8 \pm \sqrt{80}}{4}$

$$\frac{8 \pm \sqrt{16 \cdot 5}}{4}$$

$$\frac{8 \pm 4\sqrt{5}}{4}$$

$$2 \pm \sqrt{5}$$

19. $\frac{3 \pm \sqrt{96}}{4}$

$$\frac{3 \pm \sqrt{16 \cdot 6}}{4}$$

$$\frac{3 \pm 4\sqrt{6}}{4}$$

20. $\frac{1 \pm \sqrt{120}}{5}$

$$\frac{1 \pm \sqrt{4 \cdot 30}}{5}$$

$$\frac{1 \pm 2\sqrt{30}}{5}$$

21. $\sqrt{52x^2}$

$$\frac{\sqrt{4 \cdot 13 \cdot x^2}}{2\sqrt{13}}$$

22. $\sqrt{124x^3}$

$$\frac{\sqrt{4 \cdot 31 \cdot x^2 \cdot x}}{2x\sqrt{31}}$$

23. $\sqrt{156x^5}$

$$\frac{\sqrt{4 \cdot 39 \cdot x^4 \cdot x}}{2x^2\sqrt{39}}$$

24. $\sqrt{328x^7y^3}$

$$\frac{\sqrt{4 \cdot 82 \cdot x^6 \cdot x \cdot y^2 \cdot y}}{2x^3y\sqrt{82xy}}$$

25. $\sqrt{208x^6}$

$$\frac{\sqrt{16 \cdot 13 \cdot x^6}}{4x^3\sqrt{13}}$$

26. $\sqrt{160x^9}$

$$\frac{\sqrt{16 \cdot 10 \cdot x^8 \cdot x}}{4x^4\sqrt{10x}}$$

27. $\sqrt{188x^{11}}$

$$\frac{\sqrt{4 \cdot 47 \cdot x^{10} \cdot x}}{2x^5\sqrt{47x}}$$

28. $\sqrt{280x^9y^5}$

$$\frac{\sqrt{4 \cdot 70 \cdot x^8 \cdot x \cdot y^4 \cdot y}}{2x^4y^2\sqrt{70xy}}$$