

Radical Review Worksheet

Simplify.

1. $\sqrt{121}$

4. $\sqrt{0.0064}$

7. $\sqrt{(2x)^2}$

10. $\sqrt{4x^2 - 20x + 25}$

13. $\sqrt[3]{27m^3}$

16. $\sqrt[4]{256}$

Multiply and simplify.

19. $\sqrt{19} \cdot \sqrt{5}$

Simplify.

22. $\sqrt{18}$

25. $\sqrt[3]{40}$

Divide and simplify.

27. $\frac{\sqrt{36}}{x^2}$

30. $\frac{\sqrt[5]{64x^2y^6}}{\sqrt[3]{2x^2y}}$

Add or subtract. Simplify.

31. $3\sqrt{5} + 4\sqrt{5}$

34. $5\sqrt[3]{2} - 6\sqrt{3} + 4\sqrt[3]{2}$

Multiply. Simplify.

36. $\sqrt{3}(5\sqrt{4} + 2\sqrt{7})$

39. $(7 - 2\sqrt{x})(7 + 2\sqrt{x})$

Write without rational exponents.

41. $3^{1/2}$

44. $27^{1/6}$

Write with rational exponents.

45. $\sqrt{a^3x^2y}$

Use the properties of exponents to simplify.

48. $5^{1/5} \cdot 5^{2/5}$

Use rational exponents to simplify.

50. $\sqrt[6]{a^3}$

51. $\sqrt[8]{4}$

52. $\sqrt[2]{27}$

53. $\sqrt[3]{64x^6y^{12}}$

Write as a single radical expression.

54. $\sqrt[4]{5} \cdot \sqrt{2}$

55. $\sqrt[3]{2x} \cdot \sqrt[4]{4x^2}$

56. $\frac{\sqrt{(2x+y)^7}}{\sqrt[3]{2x+y}}$

2. $-\sqrt{49}$

5. $\sqrt{1}$

8. $\sqrt{16w^4}$

11. $\sqrt[3]{1}$

14. $\sqrt[3]{-8h^6}$

17. $-\sqrt[3]{256}$

20. $\sqrt[3]{4} \cdot \sqrt[3]{6}$

23. $\sqrt[3]{160}$

26. $\sqrt{12a^5b^8}$

28. $\frac{\sqrt{300}}{\sqrt{3}}$

3. $\sqrt{\frac{25}{36}}$

6. $\sqrt{(-15)^2}$

9. $\sqrt{(y-3)^2}$

12. $\sqrt[3]{-64}$

15. $\sqrt[3]{-243}$

18. $\sqrt[4]{-256}$

21. $\sqrt{5x^4} \cdot \sqrt{4x^2}$

24. $\sqrt{300}$

29. $\frac{5\sqrt[3]{3}}{\sqrt[3]{81}}$

32. $6\sqrt{2} - 3\sqrt{2}$

35. $\sqrt{25x-50} - \sqrt{4x-8}$

37. $\sqrt[3]{8}(2\sqrt[3]{2} - 4\sqrt[3]{3})$

40. $(3\sqrt{y} - 4)^2$

33. $4\sqrt{8} + 3\sqrt{2}$

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

43. $(2y)^{2/5}$

46. $\sqrt[3]{16a^2b^5}$

47. $(\sqrt[3]{5ab^2c})^4$

49. $\frac{2^{1/6}}{2^{2/6}}$