

Rational Exponents 2

Name _____

Write in simplest radical form:

1. $36^{-1/2} = \frac{1}{6}$

8. $\sqrt[4]{49n^2} = \sqrt{7n}$

15. $\sqrt[3]{27w^9y^6} = 3w^3y^2$

2. $\left(\frac{1}{8}\right)^{2/3} = \frac{1}{4}$

9. $\sqrt[8]{16} = \sqrt{2}$

16. $y^{-1/2} = \frac{\sqrt{y}}{y}$

3. $\left(y^{1/3}\right)^{3/4} = \sqrt[4]{y}$

10. $\left(\frac{49}{81}\right)^{-1/2} = \frac{9}{7}$

17. $\frac{14}{7^{2/3}} = 2\sqrt[3]{7}$

4. $\left(\frac{x^6y^{-9}}{8}\right)^{-1/3} = \frac{2y^3}{x^2}$

11. $a^{5/6}b^{3/2}c^{7/3} = bc^2\sqrt[6]{a^5b^3c^2}$

18. $\left(x^{-3/8}\right)^{-4/9} = \sqrt[6]{x}$

5. $(25+144)^{1/2} = 13$

12. $\sqrt[3]{4} \cdot \sqrt[6]{32} = 2\sqrt{2}$

19. $x^{3/4} \cdot y^{1/2} \cdot z = z^4\sqrt{x^3y^2}$

6. $(64)^{5/6} = 32$

13. $\sqrt[3]{36} \cdot \sqrt[6]{36} = 6$

20. $2\sqrt{48} - \sqrt{12} - 3\sqrt{63} + \sqrt{112} = 6\sqrt{3} - 5\sqrt{7}$

7. $\sqrt[6]{x^9} = x\sqrt{x}$

14. $(6 - \sqrt{3})^2 = 39 - 12\sqrt{3}$