

Rational Exponents Quiz Review – Do All Work on Separate Paper!

Part 1 – Non Calculator: Fully simplify each expression using the properties of exponents. Your answers should contain no negative exponents and no fractional exponents.

1) $27^{\frac{1}{3}}$ 2) $\left(32^{\frac{1}{5}}\right)^5$ 3) 7^0 4) $(-1)^{\frac{1}{5}}$ 5) $16^{\frac{1}{4}}$ 6) $2y^{\frac{1}{2}} \cdot y$ 7) $\left(\frac{27}{8}\right)^{\frac{2}{3}}$

8) $\left(3x^{\frac{1}{2}}\right)\left(4x^{\frac{2}{3}}\right)$ 9) $\left(3a^{\frac{1}{2}}b^{\frac{1}{3}}\right)^2$ 10) $\frac{x^{\frac{4}{7}}}{x^{\frac{2}{3}}}$ 11) $(9x^4y^{-2})^{\frac{1}{2}}$ 12) $x^{\frac{1}{2}} \cdot x^{\frac{1}{3}}$

26) $\frac{2x^4y^{-4}z^{-3}}{3x^2y^{-3}z^4}$

28) $\frac{2h^3j^{-3}k^4}{3jk}$

30) $\frac{3x^3y^{-1}z^{-1}}{x^{-4}y^0z^0}$

16) $(27x^9)^{\frac{1}{3}}$ 17) $(32y^{15})^{\frac{1}{5}}$ 18) $(25b^6)^{\frac{3}{2}}$ 19) $(64m^6)^{\frac{2}{3}}$

Part 2 – Calculator: Solve the radical equations. CHECK FOR EXTRANEIOUS SOLUTIONS.

1) $\sqrt{3x} = 6$ 2) $\sqrt{4x} - 8 = -2$ 3) $\sqrt{7x-6} = \sqrt{5x+2}$

4) $x = \sqrt{30-x}$ 5) $\sqrt{2v-7} = v-3$ 6) $n-5 = \sqrt{21-6n}$

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