

Powers & Roots worksheet

Simplify:

(1) $y^{1/3} \times y^{2/3}$

(2) $x^4 \div x^6$

(3) $(x^2)^4$

(4) $a^4 \times a^6$

(5) $a^2 \div a^7$

(6) $(y^5)^6$

(7) $b^7 \times b^9$

(8) $a^7 \div a^8$

(9) $(c^{1/2})^4$

Rewrite the following using roots and whole powers only:

(10) $x^{-4/3}$

(11) $x^{-0.5}$

(12) $x^{-7/2}$

Evaluate without using a calculator:

(13) $9^{1/2}$

(14) 1^{10}

(15) 3^{-1}

(16) $64^{1/2}$

(17) 1024^0

(18) 2^{-1}

(19) $8^{-1/3}$

(20) $\frac{1}{(16)^{-1/4}}$

(21) $\left(\frac{100}{9}\right)^0$

(22) $\left(-\frac{1}{5}\right)^{-1}$

Simplify: -

(23) $a^{3/4} \times a^{1/2}$

(24) $b^{21} \div b^{16}$

(25) $(e^2 \times e^3)^4$

Simplify:

(26) $(3^3)^{1/2} \times 9^{1/4}$

(27) $\frac{p^{1/2} \times p^{-3/4}}{p^{-1/4}}$

(28) $(\sqrt{t})^3 \times (\sqrt{t^5})$ (29)

$(y^2)^{3/2} \times y^{-3}$

(30) $\frac{y^{1/6} \times y^{-2/3}}{y^{1/4}}$

(31) $(p^{1/3})^2 \times (p^2)^{1/3} \div \sqrt[3]{p}$

Evaluate:

(32) $\frac{8^{1/2} \times 32^{1/2}}{(16)^{1/4}}$

(33) $5^{1/3} \times 25^0 \times 25^{1/3}$

(34) $\frac{9^{1/3} \times 27^{-1/2}}{3^{-1/6} \times 3^{-2/3}}$