

Positive and Negative Integer Exponent Problems

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Simplify each of the following. Do not leave negative exponents in your final answer. Do not use a calculator.

(1) 9^2

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

(3) 6^3

(4) $x^2 x^3$

(5) $s^8 s^{11}$

(6) $(x^3)^2$

(7) $2 \cdot 3^2$

(8) -5^2

(9) $-x^{-2}$

(10) $2x^3$

(11) -3^3

(12) x^{-2}

(13) 5^3

(14) $\left((x^2)^3\right)^4$

(15) $2(x^2)^3$

(16) 8^{-1}

(17) $\frac{n^4}{n^{12}}$

(18) $3^2 \cdot 2^3$

(19) $2x^{-1}$

(20) $\frac{x^{12}}{x^3}$

(21) $\frac{x^7}{2x^5}$

(22) 4^{-3}

(23) $(7x^5)^2$

(24) $2^{-1}x^4$

(25) $3x^{-4}$

(26) $x^5 x^2$

(27) $a^7 a^{-3}$

(28) $3a(2a^5)$

(29) $-x^{-4}$

(30) $(-9)^2$

(31) $\frac{x^6}{x^{-3}}$

(32) $\frac{4x^{12}}{6x^6}$

(33) $3x^4(-4x^{-3})$

(34) $3x^3 x^2 + 2x^5$

(35) $2^{-3} + 3^{-1}$

(36) $\frac{4^3}{2^2}$

(37) $x^{-3} x^6$

(38) $\frac{z^{-3}}{z^2}$

(39) $-4^2 x^3$

(40) $\left(\frac{2}{3}\right)^2$

(41) $\left(\frac{x}{3}\right)^3$

(42) $\left(\frac{4}{8}\right)^6$

(43) $(x^3 y^2)^3$

(44) $(6x^8 y)^2$

(45) $(2x^3 y)^4 (3x^5 y)^2$

(46) $\frac{b^{-3}}{b^{-5}}$

(47) $5 - 3^2$

(48) $4^2 - 3^2$

(49) $\frac{8^2}{2^3}$

(50) $3x^{-2}$

(51) $\frac{c^{-6}}{c^{-8}}$

(52) $\frac{-2x^2}{x^{-3}}$

(53) $x^a x^{2a}$

(54) $(x^5)^{-3}$