

INDICES

RULES: Instead of the usual algebraic rules reproduced everywhere, I'll just state them in words. For all cases the bases must be the same.

- * Multiplying.....Add the powers
- * Dividing.....Subtract the powers
- * A power raised by a power.....Multiply the powers
- * Anything to the power zero equals one.
- * Negative powers become positive when moved from top to bottom of a fraction.

Now try these

$$a^3 \times a^2 \quad T^4 \times T^{-2} \quad b^{-3} \times b^{-2} \quad a^3 \times a^2 \times a^{-5} \quad d^3 \times a^2 \times d^4$$

$$\frac{s^9}{s^3} \quad \frac{y^7}{y^2} \quad \frac{6x^7}{9x^{-2}} \quad \frac{4W^{-4}}{2W^4} \quad \frac{a^4y^6}{a^{-2}y^2}$$

$$(3s^3)^2 \quad (a^{-4})^{-2} \quad (y^7)^{-3} \quad (s^3)^b \quad ((k^2)^2)^3$$

$$\frac{a^{-4}y^6}{a^{-2}y^{-2}} \quad \frac{4b^4c^6}{8a^2c^2} \quad \frac{x^{-4}y^6}{a^{-2}x^{-2}} \quad (as^3)^2 \quad \frac{(a^4y^6)^2}{a^{-2}y^2}$$

$$(3x^4)^2(x^5y^4) \quad (3x^2)(2x^3a^5) \quad \left(\frac{2a^2}{d^5}\right)^3 \quad \frac{18x^{11}b^3}{6x^5b^{-2}} \quad \frac{(4h^3)^2(-2g^3h)^3}{2h^2g^{-5}}$$

SOLUTIONS

a^5	T^2	$b^{-5} \quad \frac{1}{b^5}$	1	$a^2 d^7$
s^6	y^5	$\frac{2}{3}x^9 \quad \frac{2x^9}{3}$	$2W^{-8}$	a^6y^4
$9s^6$	a^8	$y^{-21} \quad \frac{1}{y^{21}}$	s^{3b}	k^{12}
$a^{-2}y^8$ $\frac{y^8}{a^2}$	$\frac{b^4c^4}{2a^2}$	$\frac{x^{-6}y^6}{a^{-2}}$ $\frac{y^6a^2}{x^6}$	a^2s^6	$a^{10}y^{10}$ $(ay)^{10}$
$9x^{13}y^4$	$6x^5a^5$ $6(xa)^5$	$\frac{8a^6}{d^{15}}$	$3x^6b^5$	$-32g^{14}h^7$

