Level 1: The Basics

You may move on to the next level once a checker has made sure you got a 100%.

Multiplying Powers	Dividing Powers	Power to a Power	Zero Exponents	Negative Exponents
1) $x^3 \cdot x^7$	2) $\frac{x^9}{x^3}$	3) $(a^5)^2$	4) 10^0	5) n^{-3}
x^{10}	x^6	a^{10}	1	$\frac{1}{n^3}$

Level 2: 2 Properties in 1

You may move on to the next level once a checker has made sure you got a 100%.

1) $(x^4 \cdot x^2)^3$

$(x^6)^3$

$\boxed{x^{18}}$

2) $\left(\frac{2^7}{2^4}\right)^5$

$(2^3)^5$

$\boxed{2^{15}}$

3) $\frac{f^9 f^3}{f^5}$

$\frac{f^{12}}{f^5}$

$\boxed{f^7}$

4) $\left(\frac{k^4}{k^5}\right)^2$

$\frac{k^2}{k^{10}}$

$k^{-8} \rightarrow \boxed{\frac{1}{k^8}}$

Level 3: With coefficients

You may move on to the next level once a checker has made sure you got a 100%.

1) $3d^4 \cdot 2d^5$

$\boxed{6d^9}$

$3 \cdot d \cdot d \cdot d \cdot d \cdot 2 \cdot d \cdot d \cdot d \cdot d \cdot d$

2) $\frac{12c^9}{3c^4}$

$\boxed{4c^5}$

$\frac{12 \cdot c \cdot c \cdot c \cdot c \cdot c \cdot c \cdot c \cdot c \cdot c}{3 \cdot c \cdot c \cdot c \cdot c}$

3) $(5b^3)^2$

$\boxed{25b^6}$

$(5 \cdot b \cdot b \cdot b)(5 \cdot b \cdot b \cdot b)$

4) $5x^0$

$5 \cdot 1$

$\boxed{5}$

5) $6k^{-3}$

$\boxed{\frac{6}{k^3}}$

6) $(3m^2)^3$

$\boxed{27m^6}$

$(3 \cdot m \cdot m)(3 \cdot m \cdot m)(3 \cdot m \cdot m)$

7) $\left(\frac{f^4}{2}\right)^4$

$\boxed{\frac{f^{16}}{16}}$

$\frac{f^4}{2} \cdot \frac{f^4}{2} \cdot \frac{f^4}{2} \cdot \frac{f^4}{2}$

Level 4: Multiple Variables

You may move on to the next level once a checker has made sure you got a 100%.

1) $-4w^4v^1 \cdot -3w^5v^2$

$\boxed{12w^9v^3}$

$-4 \cdot w \cdot w \cdot w \cdot w \cdot v \cdot -3 \cdot w \cdot w \cdot w \cdot w \cdot w \cdot v \cdot v$

2) $\frac{8y^9z^4}{8y^4z^6}$

$\boxed{\frac{y^5}{z^2}}$

3) $(7j^{10}k^5l)^2$

$(7j^{10}k^5l) \cdot (7j^{10}k^5l)$

$\boxed{49j^{20}k^{10}l^2}$

4) $\left(\frac{f^0}{3g}\right)^3$

$\left(\frac{1}{3g}\right)^3$

$\frac{1}{3g} \cdot \frac{1}{3g} \cdot \frac{1}{3g}$

$\boxed{\frac{1}{27g^3}}$

Level 5: Harder

You may move on to the next level once a checker has made sure you got a 100%.

1) $\frac{35p^9q^{-3}}{30p^4q^3}$ (÷5)

$\frac{7p^9}{6p^4q^3q^3} \rightarrow \boxed{\frac{7p^5}{6q^6}}$

2) $\left(\frac{r^4r^{-3}s^3}{4r^1s^{-1}}\right)^3$

$\left(\frac{r^1s^3}{4r^1s^{-1}}\right)^3$

$\left(\frac{r^1s^3s^1}{4r^1}\right)^3 \rightarrow \left(\frac{s^4}{4}\right)^3$

$\boxed{\frac{s^{12}}{64}}$

3) $3m^1n^{-2} \cdot 6m^{-4}n^5 \cdot \frac{1}{2}m^0n^1$

$3 \cdot 6 \cdot \frac{1}{2} = 18 \cdot \frac{1}{2} = 9$

$m^{1+-4+0} = m^{-3}$

$n^{-2+5+1} = n^4$

$9m^{-3}n^4$

$\boxed{\frac{9n^4}{m^3}}$