

## Power maze

The aim is to work your way through the maze. It will test how well you know the index laws. The squares that you can travel on have an index law correctly applied. You can not move diagonally or onto squares that contain an incorrect equation. Use your counters to keep track of your position. On which letter (A–J) does your path through the maze finish?

$3 \times 3 = 3^2$	$5 \times 5 = 2^5$	$\frac{y^{12}}{y^3} = y^4$	$3^{22} + 3^{11} = 3^2$	$5^0 = 5$	$6^3 = 6 \times 6 \times 6$	$\frac{mq^{26}}{q^{13}} = mq^{13}$	$(pq^3)^2 = p^3q^5$	$u^3 + u^{-1} = u^{-3}$	$3 \times 3 \times 3 \times 3 = 4^3$	→	<b>A</b>
$6 \times 6 \times 6 = 6^3$	$3^{-3} = \frac{1}{27}$	$\frac{x^6}{x^3} = x^3$	$\frac{q^{50}}{q^{20}} = q^{30}$	when $x = 3$ , $4x^0 = 12$	$t \times t \times t \times t = 4^t$	$(3d^7 \times 4r)^0 = 1$	$(3e^2)^4 = 81e^8$	when $x = 5$ , $-2x^2 = -50$	$(a^0)^3 = a^3$	→	<b>B</b>
$4^3 = 3 \times 3 \times 3 \times 3$	$4^{-4} = -16$	$\frac{w^{10}}{w^2} = w^{12}$	when $x = 2$ , $3x^0 = 3$	$(m \times h^2)^2 = mh^4$	$(y^0 + x^0)^2 = 1$	$(5m^4 + 3m^4)^0 = 8$	$8^{-1} = 0$	$f^3 \times g^2 = f^3g^2$	$\frac{h^9}{h^2} = h^7$	→	<b>C</b>
$2^{-3} = -6$	$2^{100} = 200$	$p^3 \times p^4 = p^{12}$	$k^7 \times k^3 = k^{10}$	$r^3 \times r^3 = r^6$	$(n^{12})^4 = n^{48}$	$3s^4 + 3s^4 = 6s^4$	$\frac{y^5}{x^3} = y^2$	$4 \times s^2 = (4s)^2$	$\frac{v^{10}}{v^2} = v^5$	→	<b>D</b>
$2^0 = 0$	when $w = 2$ , $-5w^3 = 40$	$r^3 \times w^2 = (rw)^5$	$p^3 \times p^3 = p^3$	$f^3 \times g^2 = (fg)^5$	$(7fd^3)^0 = 7fd^3$	$(k^3 \times m^2 \times 3)^0 = 1$	$2^6 = 6 \times 6$	$(-4r^3)^2 = 16r^6$	$(-2k)^3 = -8k^3$	→	<b>E</b>
$(tv^3)^2 = tv^5$	$r^5 \times r^4 = r^9$	$8s^4 - 5s^4 = 3s^4$	$\frac{c^3b^2}{b^2} = c^3$	$(x^2)^3 = x^5$	$(-2)^3 = -8$	$(-3)^2 = 9$	$r^5 \times r^4 = r^{20}$	$-20j^4 + -4j^4 = 5$	$6b^2 + 4a^2 = 10a^2b^2$	→	<b>F</b>
$\frac{44n^{24}}{4n^6} = 11n^4$	$(2d^7 \times 5d)^0 = 1$	$2y^2 + 2y^3 = 4y^5$	$(t^2)^6 = \frac{1}{t^{12}}$	$(md^2)^0 = 1$	$(a^{13}z)^2 = a^{26}z^2$	$(2a^2 \times 3d)^3 = 18a^6d^3$	$(n^1)^1 = n^2$	$(2 + n^0)^3 = 27$	$(k^2 \times 2k^3)^2 = 4k^7$	→	<b>G</b>
$(tv^4)^5 = t^5v^{20}$	$\frac{h^9}{h^9} = 1$	$z^0 = 0$	$5e^4 - 2e^2 = 3e^2$	$(3t^2)^3 = 27t^5$	$(3j^3 \times 5k)^0 = 15j^3k$	$(-y^3)^2 = -y^6$	$11^{-1} = \frac{1}{11}$	$(-2)^5 = -32$	$7q^4 - 7q^3 = 7q$	→	<b>H</b>
$\frac{20n^7}{10n^2} = 2n^5$	$(m^3)^2 = m^5$	$(2g)^2 = 4g$	$3d^2 + 3d^2 = 6d^4$	$\frac{d^4g^3h^{10}}{d^4g^3h^{10}} = 0$	$(-5)^{-2} = \frac{1}{25}$	$(3p)^2 = 9p^2$	$\frac{a^2b^3c^4}{ab^3c^4} = a$	$\left(\frac{1}{2}x\right)^2 = \frac{1}{2}x^2$	$(3b)^2 \times r^2 = 9br^2$	→	<b>I</b>
when $m = 3$ , $-3m^2 = -27$	$-40j^5 + 10j^4 = -4j$	$(x^5)^3 = x^{15}$	$2m^3 \times m^5 = 2m^8$	$(q^3d^4)^2 = q^6d^8$	$-7n^2 \times 6n^9 = -42n^{11}$	$(a^2g^2)^3 = a^5g^5$	$d^2 \times d^2 = d^4$	$v^3 \times g^2 \times 3^0 = 1$	$4^0 = 1$	→	<b>J</b>