

INDEX RULES —

MULTIPLICATION Questions $a^m \times a^n = a^{m+n}$

DIVISION Questions $a^m \div a^n = a^{m-n}$

1. Write in expanded form (showing all factors) before writing down the answer:

(a) $a^3 \times a^2 =$ _____

(b) $t^7 \times t^4 =$ _____

2. Find, showing the middle (addition) step:

(a) $d^5 \times d^3 =$ _____

(b) $g^4 \times g^6 =$ _____

(c) $w \times w^8 =$ _____

3. Find:

(a) $s^4 \times s^6 =$ _____

(b) $e^2 \times e^9 =$ _____

(c) $h^7 \times h^8 =$ _____

(d) $q^3 \times q^5 =$ _____

(e) $r^2 \times r^{10} =$ _____

(f) $p \times p^5 =$ _____

(g) $t^3 \times t =$ _____

(h) $a^2 \times a^4 \times a^6 =$ _____

(i) $b^5 \times b^2 \times b^9 =$ _____

(j) $z^9 \times z^8 \times z^7 =$ _____

(k) $y^3 \times y^2 \times y =$ _____

4. Find:

(a) $2e^2 \times 3e^4 =$ _____

(b) $5f^5 \times 2f^2 =$ _____

(c) $8q \times 4q^2 =$ _____

(d) $6h^3 \times 6h^2 =$ _____

(e) $4s^7 \times 4s =$ _____

(f) $3t^8 \times t^4 =$ _____

(g) $7y^4 \times 5y^5 =$ _____

1. Write in expanded form before writing down the answer:

(a) $\frac{t^8}{t^2} =$ _____

2. Find, showing the middle (subtraction) step:

(a) $a^9 \div a^3 =$ _____

(b) $b^7 \div b^2 =$ _____

(c) $c^{10} \div c^4 =$ _____

3. Find:

(a) $d^{12} \div d^4 =$ _____

(b) $k^{11} \div k^2 =$ _____

(c) $y^9 \div y^6 =$ _____

(d) $x^8 \div x^2 =$ _____

(e) $p^{15} \div p^5 =$ _____

(f) $m^{14} \div m^7 =$ _____

(g) $b^9 \div b^3 =$ _____

(h) $h^{18} \div h^8 =$ _____

(i) $c^{24} \div c^{20} =$ _____

(j) $e^7 \div e =$ _____

(k) $z^8 \div z^7 =$ _____

(l) $n^{20} \div n^4 =$ _____

4. Find:

(a) $12g^{12} \div 2g^2 =$ _____

(b) $8h^7 \div 4h^3 =$ _____

(c) $15n^{15} \div 5n^5 =$ _____

(d) $9s^4 \div 9s^2 =$ _____

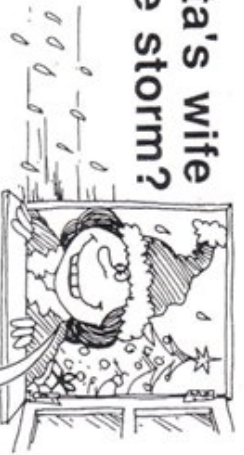
(e) $28q^{15} \div 7q^3 =$ _____

(f) $18t^{13} \div 6t^4 =$ _____

(g) $10p^7 \div 5p^6 =$ _____

(h) $24r^8 \div 8r =$ _____

What did Santa's wife say during the storm?



Simplify the expressions given, leaving your answer in index form. Each answer and letter beside the question gives the puzzle code.

b^8	a^{11}	a^8	$18a^6b^5$	e^6	a^7	$10b^5$	$12a^4b^9$	$18a^6b^5$	$18a^6b^5$
a^7b^7	$6b^{14}$	$18a^6b^5$	$15e^4$	e^6	$6e^7$	a^7	$10b^5$	$18a^6b^5$	e^6
									$15e^4$

a	=	$b \times b^3 \times b^4$	=	$a^6 \times a^5$	O
c	=	$2e^6 \times 3e^2$	=	$a^3b \times a^4b^6$	t
i	=	$5b^3 \times 2b \times b$	=	$a^4 \times a \times a^2$	n
d	=	$a \times a \times a^3 \times a \times a^2$	=	$2b^4 \times 3a^5 \times 3ab$	e
m	=		=	$3e^2 \times 5e \times e$	r
h	=	$2b^5 \times b^6 \times 3b^3$	=	$2ab \times 3a^3 \times 2b^5$	s

Who is SHERE-KHAN?

Simplify the expressions given on the left, leaving your answer in power form. Join the dot next to each question to the dot next to its answer on the right. The lines will give the puzzle code.



$a \times a \times a \times a \times a =$	•		•	c^{10}
$b^2 \times b^3 =$	•		•	b^6
$c^5 \div c^3 =$	•		•	c^{12}
$e \times e^3 \times e^2 =$	•		•	e^4
$a^6 \div a^4 =$	•		•	$c^{13}e^9$
$b^{10} \div b^3 =$	•		•	e^8
$c \times c^7 \times c^2 =$	•		•	$2b^6$
$e^{15} \div e^{11} =$	•		•	a^5
$2a^3 \times 3a^2 =$	•		•	$6a^5$
$10b^6 \div 5b^2 =$	•		•	a^9b^2
$c^3 \times e^2 \times c^5 \times e^2 =$	•		•	a^2
$ababbb =$	•		•	c^4e^{10}
$a^7b^6 \times a^2 \div b^4 =$	•		•	c^6e^4
$ce^9 \times c^3e =$	•		•	c^2
$c^8 \times c^{17} \div c^{13} =$	•		•	e^{14}
$e^7 \times e^6 \times e =$	•		•	a^3b^4
$c^7e^5 \times c^6e^4 =$	•		•	b^7

1	2	3	4	5	T	3	6	2	7	8	9	2	8	F	T	1	2
M	5	9	10	5	9	3	M	5	11	4	12	1	3	C	1		
5	15	13	2	5	7	3	9	7	14	15	10	5	7	15			
16	3	13	11	3	9	6	4	17	14	9	6	11	2	B	8	8	16