

What Do You Call a Bar of Soap That Doesn't Clean?

Simplify the expression, then cross out the letter pair next to the answer. For each letter pair that you DON'T cross out, write the upper case letter in the box containing the lower case letter.

- | | | | |
|------------------------------------|-------------------------|----------------------------------|---------------------------|
| 1 $x^2 \cdot x^5$ x^7 | f.P $12x^5$ | 7 $(ab^3)(a^3b)$ a^4b^4 | b.S $14a^5b^7$ |
| 2 $7x^3 \cdot x$ $7x^4$ | d.H x^{11} | 8 $(2ab)(3ab^5)$ $6a^2b^6$ | 1.B $6a^3b^5$ |
| 3 $4x^4 \cdot 3x$ $12x^5$ | e.J x^7 | 9 $(-4ab^2)(9a^5b)$ $-36a^6b^3$ | n.N $36a^3b^7$ |
| 4 $x \cdot x^3 \cdot x^9$ x^{13} | o.U $30x^4$ | 10 $ab(-8a^3b^2)$ $-8a^4b^3$ | p.X $6a^2b^6$ |
| 5 $(-5x^7)(-6x^2)$ $30x^9$ | b.O x^{13} | 11 $(-2a^4b)(-7ab^6)$ $14a^5b^7$ | j.G $-8a^4b^3$ |
| 6 $x(-x^5)(-x^5)$ x^{11} | g.T $7x^4$ | 12 $-3a(12a^2b^7)$ $-36a^3b^7$ | k.C a^4b^4 |
| | 1.W $30x^9$ | | e.U $14a^4b^9$ |
| | h.A x^9 | | f.V $36a^6b^8$ |

- | | | | |
|---------------------------------------|------------------------------|---------------------------|---------------------------|
| 13 $(5m^3)(-m^8t^2)$ $-5m^{11}t^2$ | n.L $16m^5t^8$ | 19 $(n^2)^3$ n^6 | f.B $81n^{18}$ |
| 14 $(-4m^4t)(15t^5)$ $-60m^4t^6$ | k.I $-5m^{11}t^2$ | 20 $(-n^5)^2$ n^{10} | p.T $-8n^{12}$ |
| 15 $(11m^4t^9)(7mt)$ $77m^5t^{10}$ | j.D $6m^5t^{10}$ | 21 $(5n^8)^2$ $25n^{16}$ | c.N $25n^{16}$ |
| 16 $(3m^2)(m^3t^3)(2mt^2)$ $6m^6t^5$ | g.T $77m^5t^{10}$ | 22 $(-2n^4)^3$ $-8n^{12}$ | d.L $81n^{36}$ |
| 17 $(-8mt^4)(-2t)(m^4t^3)$ $16m^5t^8$ | i.M $-60m^8t^6$ | 23 $(10n)^3$ $1000n^3$ | m.I n^6 |
| 18 $3t^5(-mt)(20m^7)$ $-60m^8t^6$ | f.N $6m^6t^5$ | 24 $(-3n^9)^4$ $81n^{36}$ | n.D $-8n^{16}$ |
| | b.A $16m^6t^3$ | | g.F n^{10} |
| | d.S $-60m^4t^6$ | | k.E $1000n^3$ |

- | | | | |
|-------------------------------------|----------------------------------|--|-------------------------------|
| 25 $(3x^2y^3)^2$ $9x^4y^6$ | k.U $81x^{20}y^6$ | 31 $2kd(5k^2d)^2$ $50k^5d^3$ | i.R $-81k^2d^{11}$ |
| 26 $(5x^4y)^3$ $125x^{12}y^3$ | a.S $9x^4y^6$ | 32 $-d(9kd^5)^2$ $-81k^2d^{11}$ | q.T k^8d^6 |
| 27 $(-7x^5y^2)^2$ $49x^{10}y^4$ | g.L $-32x^{10}y^{15}$ | 33 $(-kd)^2(-kd^2)$ $-k^3d^4$ | c.S $-k^3d^4$ |
| 28 $(-4xy^8)^3$ $-64x^3y^{24}$ | d.R $49x^{12}y^4$ | 34 $(-2k)^4(-k^2)(-d)^2$ $-16k^6d^2$ | g.B $-81kd^7$ |
| 29 $(-2x^2y^3)^5$ $-32x^{10}y^{15}$ | q.E $125x^{12}y^3$ | 35 $(kd^8)(kd^8)(k^8d)$ $k^{17}d^{17}$ | m.I $k^{17}d^{17}$ |
| 30 $(3x^7y^2)^4$ $81x^{28}y^8$ | i.N $-64x^3y^{24}$ | 36 $(-k^2d)^3(-k^2d^3)$ $-k^8d^6$ | a.H $50k^5d^3$ |
| | c.T $81x^{28}y^8$ | | p.D $k^{15}d^{12}$ |
| | p.G $49x^{10}y^4$ | | o.A $-16k^6d^2$ |

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
	A		R	U	B	B	A		D	U	B		D	U	D	

How Does the King's Son Write?

Simplify each expression. For each set of exercises, there is one extra answer. Write the letter of this answer in the corresponding box at the right.



1

a. $9x \cdot x^5$ $9x^6$

(K) $24x^5$

b. $5x^2 \cdot 4x^3$ $20x^5$

(O) $-6x^{10}$

c. $(-8x^4)(-3x)$ $24x^5$

(A) $9x^6$

d. $(6x^4)(-x^6)$ $-6x^{10}$

(E) $24x^{10}$

(L) $20x^5$

2

a. $(7n^3)^2$ $49n^6$

(W) $64n^{12}$

b. $(-4n^8)^3$ $-64n^{24}$

(I) $625n^{12}$

c. $(5n^4)^4$ $625n^{16}$

(U) $-64n^{24}$

d. $(-2n^2)^6$ $64n^{12}$

(B) $49n^6$

(D) $625n^{16}$

3

a. $(4m^7d^2)^2$ $16m^{14}d^4$

(T) $16m^{14}d^4$

b. $(-9m^4d^3)^2$ $81m^8d^6$

(G) $-m^6d^{15}$

c. $(-m^2d^5)^3$ $-m^6d^{15}$

(V) $81m^8d^6$

d. $(-3md^9)^4$ $81m^4d^{36}$

(E) m^6d^8

(R) $81m^4d^{36}$

4

a. $3xy(5x^2y)^2$ $75x^5y^3$

(S) $-56x^3y^7$

b. $(-7y)(2xy^2)^3$ $-56x^3y^7$

(N) $100x^{20}y^7$

c. $x^8y^3(-10x^5y^4)^2$ $100x^{18}y^{11}$

(C) $75x^5y^3$

d. $(xy^4)^4(-9y^3)$ $-9x^4y^{19}$

(F) $-9x^4y^{19}$

(T) $100x^{18}y^{11}$

5

a. $(5p^2q^3)(p^5q)(2p^4q)$ $10p^{11}q^5$

(H) $72p^{10}q^{12}$

b. $(2p^5q^2)(9p^3)(-4p^8q)$ $-72p^{16}q^3$

(B) $-72p^{16}q^3$

c. $(-18q^6)(4p^4q)(-pq^3)$ $72p^5q^{10}$

(G) $10p^{11}q^5$

d. $3pq(-2q^5)(12p^9q^2)$ $-72p^{10}q^8$

(L) $72p^5q^{10}$

(M) $-72p^{10}q^8$

6

a. $(8ut^3)^2(u^2t)^2$ $64u^6t^8$

(W) $-u^{10}t^8$

b. $(u^4t)^3(-2ut^5)^4$ $16u^{16}t^{23}$

(T) $64u^6t^8$

c. $(-ut^3)(-ut)^3$ u^4t^6

(F) u^4t^6

d. $(-u^2t)^4(-u^2t^4)$ $-u^{10}t^8$

(S) $16u^{16}t^{23}$

(R) $-u^4t^8$

7

a. $(3ab^2c^5)^3(a^3b^8c)^2$ $27a^9b^{22}c^{17}$

(D) $27a^9b^{22}c^{17}$

b. $(-bc^5)(a^4b^3c^9)(-ab^8)$ $a^5b^{12}c^{14}$

(C) $-88a^4b^3c^6$

c. $(-2ab)^3(ac^3)(11bc^2)$ $-88a^4b^4c^5$

(G) $a^{12}b^6c^{10}$

d. $(a^2bc)^5(a^2bc^5)$ $a^{12}b^6c^{10}$

(T) $-88a^4b^4c^5$

(K) $a^5b^{12}c^{14}$

8

a. $(\frac{1}{2}k^8v^3)^2(60kv^4)$ $15k^{17}v^{10}$

(P) $-15k^9v^9$

b. $(10k^5v)^3(\frac{1}{5}v^3)^2$ $40k^{15}v^9$

(T) $40k^{15}v^9$

c. $-(k^9v^2)(-15v^6)$ $15k^9v^8$

(W) $15k^{17}v^{10}$

d. $(-kv)^2(-kv)^3(-kv)^4$ $-k^9v^9$

(B) $-k^9v^9$

(S) $15k^9v^8$

Why Was the Deck of Cards Always in Trouble?



Simplify the expression. For each set of exercises, there is one extra answer. Write the letter of this answer in each box containing the number of that set.

1	a. $\frac{20x^5}{5x^3}$ $4x^2$	b. $\frac{-28x^4}{7x}$ $-4x^3$	P $-4x^3$	O $-4x$	V $4x^2$
2	a. $\frac{26m^8n^2}{13m^5n}$ $2m^3n$	b. $\frac{-60m^9n^6}{-12mn^2}$ $5m^8n^4$	I $5m^3n^2$	A $2m^3n$	G $5m^8n^4$
3	a. $\frac{2ab^5}{a^4b^2}$ $\frac{2b^3}{a^3}$	b. $\frac{-5a^2b^3}{10b^8}$ $-\frac{1a^2}{2b^5}$	F $\frac{2b^3}{a^3}$	S $-\frac{2a^2}{b^3}$	T $-\frac{a^2}{2b^5}$
4	a. $\frac{(k^2e)^2}{k^3e}$ ke	b. $\frac{(ke)^2(ke^2)}{k^2e}$ ke^3	N ke^3	L ke	D k^2e^2
5	a. $\frac{(-3c^3d)^2}{2cd^3}$ $\frac{9c^6d^2}{2cd^3}$	b. $\frac{(-c)^3(-d^3)}{5c^8d}$ $\frac{-c^3d^3}{5c^8d}$	A $\frac{9c^5}{2d}$	R $\frac{d^2}{5c^5}$	E $\frac{9d}{5c^3}$
6	a. $\left(\frac{8x}{y^3}\right)^2$ $\frac{64x^2}{y^6}$	b. $\left(\frac{x^5}{-2y^2}\right)^3$ $-\frac{x^{15}}{8y^6}$	B $-\frac{x^{15}}{8y^6}$	T $\frac{x^8}{8y^8}$	W $\frac{64x^2}{y^6}$
7	a. $\left(\frac{6ab^3}{3c^2}\right)^2$ $\frac{36a^2b^6}{9c^4}$	b. $\left(\frac{a^2b^3c^4}{ac^2}\right)^3$ $\frac{a^6b^9c^{12}}{a^3c^6}$	R $\frac{4a^3b^9}{c^4}$	N $a^3b^9c^6$	V $\frac{4a^2b^6}{c^4}$
8	a. $\frac{(-5vt)^2}{-5vt^2}$ $5vt$	b. $\frac{15(v^2t)^5}{3v^{10}}$ $5t^5$	H $5vt^4$	L $-5v$	A $5t^5$
9	a. $\frac{(-3wh^3)^2}{9w^5h^8}$ $\frac{1}{w^3h^2}$	b. $\frac{-w(-h)^4}{(-wh)^4}$ $-\frac{1}{w^3}$	J $-\frac{1}{w^2h^2}$	F $\frac{1}{w^3}$	B $\frac{1}{w^3h^2}$
10	a. $\left(\frac{5pq^3}{4p^3q}\right)^2$ $\frac{25q^4}{16p^4}$	b. $\left(\frac{-3q^5}{pq}\right)^3$ $-\frac{27q^{12}}{p^3}$	A $-\frac{27q^{12}}{p^3}$	L $-\frac{27q^6}{p^4}$	N $\frac{25q^4}{16p^4}$
11	a. $\frac{(-2n)^5}{-2n^5}$ 1	b. $\frac{12n(-n)^3}{-60n^2}$ $-\frac{1}{5}$	G $\frac{n^2}{5}$	B 16	K $\frac{n}{8}$
12	a. $\left(\frac{a^3}{7b^2}\right)^x$ $\frac{a^{3x}}{7^x b^{2x}}$	b. $\left(\frac{7a^x}{7b^y}\right)^x$ $\frac{7^x a^{x^2}}{7^x b^{xy}}$	P $\frac{a^{x^2}}{b^{xy}}$	M $\frac{a^{3x}}{7^x b^{2x}}$	W $\frac{a^{3x}}{7b^x}$

What Did Professor Utterbunk Say When Asked: Have You Ever Heard of the Planet Saturn?

Simplify each expression. Write the letter of the answer in the box containing the exercise number.

- 1 5^3 125
- 2 5^{-3} $\frac{1}{125}$
- 3 3^{-5} $\frac{1}{243}$
- 4 $(-5)^{-3}$ $\frac{1}{-125}$
- 5 $(-12)^{-2}$ $\frac{1}{144}$
- 6 -12^{-2} $\frac{-1}{144}$
- 7 $(-12)^0$ 1
- 8 $(-4)^{-3}$ $\frac{1}{-64}$

Answers 1-8:

- T $\frac{1}{144}$ M $\frac{1}{125}$
 P -1 R $-\frac{1}{64}$
 I 125 L 144
 U 1 N $\frac{1}{243}$
 O $-\frac{1}{125}$ F -125
 E $\frac{1}{64}$ S $-\frac{1}{144}$

17 $7ab^0$ 7a

18 $7ab^{-4}$ $\frac{7a}{b^4}$

19 $\frac{7}{ab^{-4}}$ $\frac{7b^4}{a}$

20 $\frac{7^{-2}a}{b^{-1}}$ $\frac{ab}{49}$

21 $2x^3y^{-8}$ $\frac{2x^3}{y^8}$

22 $\frac{2x^{-3}}{y^{-8}}$ $\frac{2y^8}{x^3}$

23 $\frac{2^{-1}x^{-3}}{y^8} = \frac{1}{2x^3y^8}$

Answers 17-23:

- I $\frac{2y^8}{x^3}$ A $\frac{7a}{b^4}$
 R $2x^3y^8$ O $7ab^4$
 F $\frac{7b^4}{a}$ L $\frac{1}{2x^3y^8}$
 S 7a A $\frac{ab}{49}$
 M $\frac{2x^3}{y^8}$ N $\frac{b}{49a}$

- 9 $-4^{-3} = \frac{-1}{64}$
- 10 $10^{-5} = \frac{1}{100,000}$
- 11 $(-10)^{-5} = \frac{-1}{100,000}$
- 12 $10^0 = 1$
- 13 $75^{-1} = \frac{1}{75}$
- 14 $-75^{-1} = \frac{-1}{75}$
- 15 $(-2)^{-4} = \frac{1}{16}$
- 16 $-2^{-4} = \frac{-1}{16}$

Answers 9-16:

- O 16 I $\frac{1}{75}$
 T $-\frac{1}{75}$ E $-\frac{1}{64}$
 A $-\frac{1}{16}$ N $\frac{1}{1000}$
 T 1 R -75
 S -64 H $\frac{1}{16}$
 B $\frac{1}{100,000}$
 U $-\frac{1}{100,000}$

24 $\frac{3n^2}{t^{-5}}$ $3n^2t^5$

25 $3^4n^{-2}t^5$ $\frac{81t^5}{n^2}$

26 $\frac{3^{-4}t^{-5}}{n^{-2}}$ $\frac{n^2}{81t^5}$

27 $\frac{8^2c^{-1}d^{-6}}{5}$ $\frac{64}{5cd^6}$

28 $\frac{(-8)^2c^0}{5^{-1}d^{-6}}$ $\frac{320d^6}{c}$

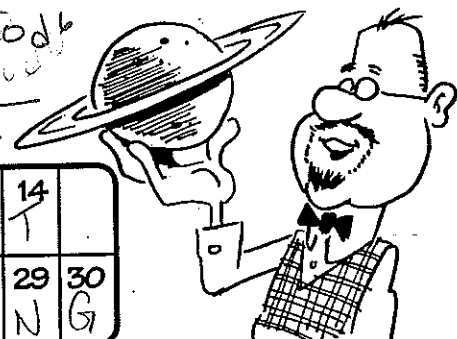
29 $\frac{(-8)^{-2}d^{-6}}{5c^{-1}}$ $\frac{c}{320d^6}$

30 $\frac{-8^{-2}}{5^{-1}cd^0} = \frac{-5}{4c}$

Answers 24-30:

- T $\frac{64c}{5d^6}$ G $-\frac{5}{64c}$
 I $3n^2t^5$ I $320d^6$
 R $\frac{n^2}{81t^5}$ A $\frac{81t^5}{n^2}$
 E $320cd^6$ S $81n^2t^5$
 R $\frac{64}{5cd^6}$ N $\frac{c}{320d^6}$

1	2		3	4	5		6	7	8	9		10	11	12		13	14	
I	M		N	O	T		S	U	R	E		B	U	T		I	T	
15	16	17		18		19	20	21	22	23	24	25	26		27	28	29	30
H	A	S		A		F	A	M	I	L	I	A	R		R	I	N	G



PARTNER A (top)

TEAM NAME

PARTNER B (bottom)

What Did People Say After Two Satellite Dishes Got Married?

Simplify the expression. Write the exercise letter in the box containing the number of the answer. Partner A should do the top half and Partner B the bottom half.

A $8^3 = 512$ **B** $8^{-3} = \frac{1}{512}$ **E** $(-8)^3 = -512$ **L** $(-8)^{-3} = -\frac{1}{512}$ **I** $(-25)^2 = 625$
T $(-25)^{-2} = \frac{1}{625}$ **E** $-25^{-2} = -\frac{1}{625}$ **D** $(-44)^0 = 1$ **T** $3^{-4} = \frac{1}{81}$ **N** $-3^{-4} = -\frac{1}{81}$
U $5ab^{-3} = \frac{5a}{b^3}$ **W** $\frac{5^3 a^{-3}}{b} = \frac{125}{a^3 b}$ **D** $\frac{5^{-3} a}{b^{-3}} = \frac{ab^3}{125}$ **H** $2^4 a^0 b^{-8} = \frac{16}{b^8}$ **S** $\frac{2^{-4}}{a^{-1} b^8} = \frac{a}{16b^8}$
W $\frac{7^{-1} k^5}{n^2} = \frac{k^5}{7n^2}$ **L** $\frac{7^{-2} k^{-5}}{n^{-2}} = \frac{n^2}{49k^5}$ **G** $\frac{7^{-3} n^{-2}}{k^0} = \frac{1}{343n^2}$ **D** $\frac{(-7)^{-2}}{2kn^{-2}} = \frac{n^2}{98k}$ **U** $\frac{-7^{-2} n^2}{2k^{-5}} = -\frac{k^5 n^2}{98}$

9 625 **10** $-\frac{1}{81}$ **19** $-\frac{1}{512}$ **22** $\frac{1}{512}$
17 1 **14** 512 **6** $-\frac{1}{625}$ **16** -81
12 -625 **1** $\frac{1}{81}$ **3** -512 **24** $\frac{1}{625}$

11 $\frac{1}{343n^2}$ **15** $\frac{a}{16b^8}$ **23** $\frac{5a}{b^3}$ **8** $\frac{ab^3}{125}$
18 $-\frac{n^2 k^5}{98}$ **4** $\frac{n^2}{343}$ **20** $\frac{n^2}{49k^5}$ **2** $\frac{16}{b^8}$
5 $\frac{k^5}{7n^2}$ **13** $\frac{125}{a^3 b}$ **21** $\frac{k^5}{98n}$ **7** $\frac{n^2}{98k}$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
T	H	E		W	E	D	D	I	N	G		W	A	S		D	U	L	L		B	Y	T	

O $7^3 = 343$ **E** $7^{-3} = \frac{1}{343}$ **A** $(-7)^3 = -343$ **H** $(-7)^{-3} = -\frac{1}{343}$ **T** $(-20)^2 = 400$
E $(-20)^{-2} = \frac{1}{400}$ **A** $-20^{-2} = -\frac{1}{400}$ **S** $(-99)^0 = 1$ **E** $4^{-4} = \frac{1}{256}$ **I** $-4^{-4} = -\frac{1}{256}$
T $9ab^{-2} = \frac{9a}{b^2}$ **E** $\frac{9^2 a^{-2}}{b} = \frac{81}{a^2 b}$ **T** $\frac{9^{-2} a}{b^{-2}} = \frac{ab^2}{81}$ **W** $4^3 a^0 b^{-10} = \frac{64}{b^{10}}$ **R** $\frac{4^{-3}}{a^{-1} b^{10}} = \frac{a}{64b^{10}}$
G $\frac{6^{-1} k^8}{n^3} = \frac{k^8}{6n^3}$ **N** $\frac{6^{-2} k^{-8}}{n^{-3}} = \frac{n^3}{36k^8}$ **C** $\frac{6^{-3} n^{-3}}{k^0} = \frac{1}{216n^3}$ **R** $\frac{(-6)^{-2}}{4kn^{-3}} = \frac{n^3}{144k}$ **P** $\frac{-6^{-2} n^3}{4k^{-8}} = -\frac{n^3 k^8}{144}$

23 $-\frac{1}{400}$ **13** 343 **17** -343 **22** $\frac{1}{343}$
1 -256 **7** $\frac{1}{400}$ **12** $-\frac{1}{256}$ **18** 1
3 $-\frac{1}{343}$ **11** 400 **15** -625 **4** $\frac{1}{256}$

10 $-\frac{n^3 k^8}{144}$ **16** $\frac{64}{b^{10}}$ **6** $\frac{a}{64b^{10}}$ **24** $\frac{9a}{b^2}$
20 $\frac{k^8}{6n^3}$ **9** $\frac{81}{a^2 b}$ **21** $\frac{n^3}{144k}$ **19** $\frac{81a}{b^2}$
8 $\frac{1}{216n^3}$ **5** $\frac{b^{10}}{64a}$ **14** $\frac{n^3}{36k^8}$ **2** $\frac{ab^2}{81}$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
T	H	E		R	E	C	E	P	T	I	O	N		W	A	S		G	R	E	A	T	



How Did the Absent-Minded Professor Burn His Ear?

Simplify the expression. Write the letter of the exercise in the box that contains the number of the answer.

E $n^2 \cdot n^5$ n^7

N $(n^2)^5$ n^{10}

H $(n^{-2})^5$ $\frac{1}{n^{10}}$

A $(n^9)^4$ n^{36}

O $(n^2)(n^3)^{-2}$ $\frac{1}{n^4}$

I $(n^4)^{-3}(n^4)^{-1}$ $\frac{1}{n^{16}}$

E $(n^{10})^{10}(n^{-8})^3$ n^{76}

Answers • Part 1

29 n^{76} 31 n^{42}

20 n^{81} 18 n^7

33 n^{10} 5 n^{39}

27 $\frac{1}{n^4}$ 8 $\frac{1}{n^{16}}$

4 $\frac{1}{n^{12}}$ 22 $\frac{1}{n^{10}}$

Answers • Part 2

23 $-64d^7$ 17 $64d^6$

6 $-64d^6$ 30 $25d^{10}$

13 $49d^2$ 10 $25d^8$

9 $\frac{1}{81d^{18}}$ 1 $\frac{1}{81d^{29}}$

32 $\frac{1}{64d^6}$ 12 $\frac{64}{d^9}$

Answers • Part 3

14 $81y^2$ 3 $1000x^6y^2$

12 $x^{10}y^8$ 26 $-x^9y^{24}$

2 $x^{12}y^{10}$ 19 $1000x^5y^6$

16 $\frac{81y^7}{x^4}$ 4 $\frac{125x^8}{y^{13}}$

21 $\frac{81y^{12}}{x^2}$ 25 $\frac{125x^9}{y^{12}}$

I $(x^5y^4)^2$ $x^{10}y^8$

N $(10xy^2)^3(x^2)$ $1000x^5y^6$

H $(-x^3y^8)^3$ $-x^9y^{24}$

E $(x^2y)^5(x^2y^5)$ $x^{12}y^{10}$

G $(9x^3y^4)^2(xy)^{-6}$ $\frac{81y^2}{x^6}$

T $(3x^{-2})^4(x^2y^4)^3$ $\frac{81y^{12}}{x^2}$

W $(-5y^{-5})^3(-x^4y)^2$ $\frac{-125x^8}{y^{13}}$

Answers • Part 4

25 $30m^2t^2$ 34 $-225m^7t^{12}$

16 $16m^4t^6$ 24 $-225m^6t^{10}$

11 $36m^{14}t^8$ 9 1

31 $27m^6t^4$ 7 $27m^5t^6$

15 $\frac{256m^2}{t^3}$ 28 $\frac{256}{m^4t^4}$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
A	E		W	A	S		I	R	O	N	I	N	G		W	H	E	N		T	H	E		P	H	O	N	E		R	A	N	G

For Whom Was Mr. Bachelor Rabbit Searching?

Simplify each expression. Partner A should do the left side and Partner B the right side. After completing each set, find matching answers. One will have a letter and the other a number. Write the letter in the matching numbered box at the bottom of the page.

SET 1

$$I. 5n^3 \cdot n^2 = 5n^5 \quad E. 2n^4 \cdot 9n = 18n^5$$

$$T. -3n^2(8n^{-5}) = \frac{-24}{n^3} \quad S. (-15n)(-n^8) = 15n^9$$

SET 1

$$15. 3n^2 \cdot 6n^3 = 18n^5 \quad 5. 5n^8 \cdot 3n = 15n^9$$

$$1. -2n^4(12n^{-7}) = \frac{-24}{n^3} \quad 9. (-5n)(-n^4) = 5n^5$$

SET 2

$$O. \frac{9x^7}{3x^2} = 3x^5$$

$$H. \frac{-30x^3}{5x^5} = \frac{-6}{x^2}$$

$$U. \frac{40x^7}{8x^{-1}} = 5x^8$$

$$A. \frac{-2x^{-5}}{-6x^{-2}} = \frac{1}{3x^3}$$

SET 2

$$17. \frac{10x^9}{2x} = 5x^8$$

$$13. \frac{-15x^8}{-5x^3} = 3x^5$$

$$10. \frac{4x^{-1}}{12x^2} = \frac{1}{3x^3}$$

$$2. \frac{18x^{-5}}{-3x^{-3}} = \frac{-6}{x^2}$$

SET 3

$$E. (5cd^2)(6c^2d^3) = 30c^3d^5$$

$$Y. 4cd^7(3c^4d^{-3}) = 12c^5d^4$$

$$T. (9cd^5)(2c^3d^2) = 36c^4d^7$$

$$S. 36c^5d^3(cd^2)^3 = 36c^8d^9$$

SET 3

$$20. (6cd^3)(2c^4d) = 12c^5d^4$$

$$7. 3c^2d^7(10cd^{-2}) = 30c^3d^5$$

$$12. (4c^4d^7)(3c^2d)^2 = 36c^8d^9$$

$$4. 36cd^4(c^2d)^3 = 36c^7d^7$$

SET 4

$$N. \left(\frac{4at^5}{a^3t^{-1}}\right)^2 = \left(\frac{4t^6}{a^2}\right)^2 \quad A. \left(\frac{3a^4t^{-2}}{a^2t}\right)^4 = \frac{81a^8}{t^{12}}$$

$$L. \left(\frac{-2t^4}{at}\right)^6 = \left(\frac{-2t^3}{a}\right)^6 \quad M. \left(\frac{4a^3t^2}{9at^6}\right)^{-3} = \frac{729t^{12}}{64a^6}$$

SET 4

$$3. \left(\frac{9a^5t^{-1}}{at^5}\right)^2 = \frac{81a^8}{t^{12}} \quad 11. \left(\frac{4at^4}{a^3t^{-2}}\right)^3 = \frac{64t^8}{a^6}$$

$$18. \left(\frac{-2t^5}{at^2}\right)^4 = \frac{16t^{12}}{a^4} \quad 14. \left(\frac{8a^4t}{27at^7}\right)^{-2} = \frac{729t^{12}}{64a^6}$$

SET 5

$$P. (5x^6y)(2y^3)(3x^{-2}y^{-9}) = 30x^4y^{-5}$$

$$N. (4xy)^2(4xy^2) = 64x^3y^4$$

$$C. (xy)^{-3}(-x^7y^2)(30x^2) = -30x^4y^{-1}$$

$$B. x^9y^4(4x^{-1}y^2)^3 = 64x^6y^{10}$$

SET 5

$$8. (-x^9y^2)(10y^5)(3x^{-3}y^{-8}) = -30x^6y^{-1}$$

$$16. (2xy)^5(2xy^5) = 64x^6y^{10}$$

$$6. (xy)^{-2}(30x^5)(xy^{-3}) = 30x^4y^{-5}$$

$$19. 8x^6y(2x^{-1}y)^3 = 64x^3y^4$$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
T	H	A	T	S	P	E	C	I	A	L	S	O	M	E	B	U	N	N	Y