



Exponents and Scientific Notation

- 1** Find the answer when this term is raised to its exponent

$$(z^2)^3$$

A	z^0	B	z^5
C	z^{600}	D	z^6

- 2** Find the answer when this term is raised to its exponent

$$(5^3)^4$$

A	5^{12}	B	5
C	5^{11}	D	$5^{1,200}$

- 3** Find the answer when this term is raised to its exponent

$$(33^4)^3$$

A	33^7	B	33^{12}
C	33^{13}	D	33^{120}
E	$33^{1,200}$		

- 4** Use the power of a product rule to separate this into a product of powers.

$$(mw)^2$$

A	$m \cdot w^2$	B	$m^2 \cdot w^2$
C	$m^4 \cdot w^4$	D	$m^2 \cdot w$
E	$m^2 + w^2$		

- 5** Use the power of a product rule to write this as a single power of a product.

$$r^3 \cdot q^3$$

A	$(r + q)^3$	B	$(rq)^4$
C	$(rq)^3$	D	$(rq)^6$

- 6** Use the power of a product rule to separate this into a product of powers.

$$(15)^3$$

A	$3^3 \cdot 5^3$	B	$3^3 \cdot 5$
C	$3 \cdot 5^3$	D	$3^3 + 5^3$
E	$3^6 \cdot 5^6$		

- 7** Use the power of a product rule to separate this into a product of powers.

$$\left(\frac{2}{6} \cdot \frac{3}{4}\right)^2$$

A	$\left(\frac{2}{6}\right)^4 \cdot \left(\frac{3}{4}\right)^4$	B	$\left(\frac{2}{6}\right)^2 \cdot \frac{3}{4}$
C	$\left(\frac{2}{6}\right)^2 + \left(\frac{3}{4}\right)^2$	D	$\frac{2}{6} \cdot \left(\frac{3}{4}\right)^2$
E	$\left(\frac{2}{6}\right)^2 \cdot \left(\frac{3}{4}\right)^2$		



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- 8** Use the power of a product rule to write this as a single power of a product.

$$\left(\frac{4}{5}\right)^3 \cdot \left(\frac{3}{7}\right)^3$$

A

$$\left(\frac{4}{5} \cdot \frac{3}{7}\right)^3$$

B

$$\left(\frac{4}{5} \cdot \frac{3}{7}\right)^4$$

C

$$\left(\frac{4}{5} \cdot \frac{3}{7}\right)^6$$

D

$$\left(\frac{4}{5} + \frac{3}{7}\right)^3$$

- 9** Find the answer when these terms are multiplied

$$(y^4) \cdot (y^4)$$

A

$$y^7$$

B

$$y^8$$

C

$$y^9$$

D

$$y^5$$

E

$$y^2$$

F

$$y^0$$

- 10** Find the answer when these terms are multiplied

$$(r^7) \cdot (r^{-6})$$

A

$$r^{-6}$$

B

$$r^6$$

C

$$r^5$$

D

$$r^0$$

E

$$r$$

F

$$r^{-8}$$

- 11** Find the answer when this fraction is raised to its exponent

$$\left(\frac{5}{6}\right)^2$$

A

$$\frac{25}{36}$$

B

$$\frac{7}{39}$$

C

$$\frac{125}{1,296}$$

D

$$\frac{1}{8}$$

E

$$\frac{22}{33}$$

F

$$\frac{28}{8}$$

- 12** Find the answer when this fraction is raised to its exponent

$$\left(\frac{-6}{7}\right)^2$$

A

$$\frac{1,296}{46}$$

B

$$\frac{36}{49}$$

C

$$-\frac{4}{52}$$

D

$$-\frac{216}{14}$$

E

$$\frac{1,296}{14}$$

F

$$-\frac{6}{343}$$



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13 Find the answer when these terms are multiplied

$$(m^3) \cdot (m^{-4})$$

A	m^{-1}	B	m^{-8}
C	m^{-9}	D	m^4
E	m^7	F	m^{-10}

14 Find the answer when these terms are multiplied

$$(p^{-3}) \cdot (p^{-2})$$

A	p^7	B	p^{-9}	C	p^8
D	p^{-1}	E	p^{-5}	F	p^0

15 Find the answer when these terms are divided

$$\frac{b^4}{b^2}$$

A	b^2	B	b^3	C	b^0
D	1	E	b^5	F	$\frac{1}{b}$

16 Find the answer when these terms are divided

$$\frac{x^{-10}}{x^{-7}}$$

A	x^5	B	x^{-6}	C	x^{-3}
D	x^{-2}	E	x^4	F	x

17 Solve the equation by dividing powers of ten

$$\frac{10^{-7}}{10^{-3}}$$

A	10^{-2}	B	10^{-3}
C	10^{-6}	D	10^{-4}
E	10^{-7}	F	10^{-5}

18 Find the answer when these terms are divided

$$\frac{x^{-5}}{x^2}$$

A	$\frac{1}{x^9}$	B	$\frac{1}{x^{10}}$	C	$\frac{1}{x^6}$
D	$\frac{1}{x^7}$	E	$\frac{1}{x^8}$	F	$\frac{1}{x^5}$

19 Find the answer when these terms are divided

$$\frac{c^{-3}}{c^3}$$

A	c^{-4}	B	c^2	C	c^{-6}
D	c^8	E	c^{-2}	F	c^{-9}

20 Solve the equation by dividing powers of ten

$$\frac{10^1}{10^0}$$

A	10^{-1}	B	10^0
C	10^1	D	10^2
E	10^{-2}	F	10^3



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- 21** Find the answer when these terms are divided

$$\frac{p^{-4}}{p^{-5}}$$

A p^0	B p^2	C p^3
D p^4	E p	F $\frac{1}{p}$

- 22** Find the answer when these terms are divided

$$\frac{n^1}{n^2}$$

A n^1	B $\frac{1}{n^4}$	C n^2
D n^0	E $\frac{1}{n}$	F $\frac{1}{n^2}$

- 23** Find the answer when these terms are divided

$$\frac{b^2}{b^3}$$

A b^{-6}	B b^5	C b^{-1}
D b^{-5}	E b^9	F b^4

- 24** Find the answer when these terms are divided

$$\frac{c^{-6}}{c^{-5}}$$

A $\frac{1}{c^3}$	B $\frac{1}{c}$	C c
D $\frac{1}{c^2}$	E $\frac{1}{c^4}$	F c^2

- 25** Find the answer when this number is raised to its exponent

$$2^{-3}$$

A $\frac{1}{4}$	B 16	C $\frac{1}{2}$
D 6	E 5	F $\frac{1}{8}$

- 26** What is another way of representing this number raised to a negative exponent?

$$9^{-3}$$

A $\frac{1}{3^9}$	B $\frac{9}{3^{-1}}$	C $\frac{-1}{9^3}$
D $\frac{9}{3^9}$	E $\frac{1}{9^3}$	F $\frac{-1}{3^9}$

- 27** Find the answer when these terms are divided

$$\frac{w \times w \times w}{w \times w \times w}$$

A 0	B w
C w^2	D 1

- 28** Find the answer when these terms are divided

$$\frac{x \times x}{x \times x}$$

A x	B x^2
C 0	D 1



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- 29** Find the answer when this number is raised to its exponent

$$(-6)^{-2}$$

A 36	B 39
C 1296	D $\frac{1}{36}$
E $\frac{1}{216}$	F $-\frac{1}{36}$

- 30** Find the answer when these terms are multiplied

$$(b \times b \times b) \cdot \left(\frac{1}{b \times b \times b}\right)$$

A b^4	B b^0	C b^3
D b^{-9}	E b^{-3}	F b^{-1}

- 31** Which division has this as the answer?

$$c$$

A $\frac{c^7}{c^6}$	B $\frac{c^7}{c^7}$	C $\frac{c^4}{c^6}$
D $\frac{c^5}{c^6}$	E $\frac{c^7}{c^5}$	

- 32** Solve the equation by multiplying scientific notation numbers

$$(4.8 \times 10^2) \times (1.3 \times 10^3)$$

A 6.24×10^5	B 1.87×10^8
C 2.50×10^7	D 6.24×10^4
E 1.87×10^7	F 2.50×10^6

- 33** Solve the equation by dividing scientific notation numbers

$$\frac{(5.5 \times 10^6)}{(1.1 \times 10^3)}$$

A 5×10^0	B 1.5×10^2
C 2×10^1	D 5×10^1
E 5×10^3	F 1.5×10^3