



**THIRD SPACE
LEARNING**

Laws of Exponents Worksheet

Algebra

Grades 6 to 8

Questions

Name:

Date:

1 $p^3 \times p^4$

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

2 $y^6 \div y^2$

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

3 $(g^2)^3$

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

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4 $5p^2 \times 6p^7$

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

5 $6y^6 \div 2y^3$

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

6 $(4g^3)^3$

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

7 c^{-4}

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

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8 $8z^{-2}$

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

9 $s^4 \times s^{-3}$

a) Show the expression in expanded form.

Answer

b) Show the expression in exponential form.

Answer

Solve the equations in questions 10–14.

10 $12^0 = \underline{\hspace{2cm}}$

Answer

11 $8^5 \times 8^2 = \underline{\hspace{2cm}}$

Answer

12 $3^3 \div 3^6 = \underline{\hspace{2cm}}$

Answer

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13 $6(2)^4$

Answer

14 $\frac{(4^2)^5}{7^3}$

Answer

Simplify the expressions in questions 15–20.

15 $\frac{(x^3)^4}{x}$

Answer

16 $\frac{12m^4n^2}{4m^3n}$

Answer

17 $8a^3 \times 4a^2 \times a$

Answer

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18 $7x^8 \div 7x^5 \times x^3$

Answer

19 $\frac{3m^4n}{9m^2n^2}$

Answer

20 $(\frac{1}{2}a^5 \times \frac{4}{5}a^2)^2$

Answer

Answers

Question number	Question	Answers	Standard
1	$p^3 \times p^4$ a) Show the expression in expanded form. b) Show the expression in exponential form.	a) $(p \times p \times p) \times (p \times p \times p \times p)$ b) p^7	8.EE.A.1
2	$y^6 \div y^2$ a) Show the expression in expanded form. b) Show the expression in exponential form.	a) $\frac{y \times y \times y \times y \times y \times y}{y \times y}$ b) y^4	8.EE.A.1
3	$(g^2)^3$ a) Show the expression in expanded form. b) Show the expression in exponential form.	a) $(g \times g)(g \times g)(g \times g)$ b) g^6	8.EE.A.1
4	$5p^2 \times 6p^7$ a) Show the expression in expanded form. b) Show the expression in exponential form.	a) $(5 \times p \times p) \times (6 \times p \times p \times p \times p \times p \times p \times p)$ b) $30p^9$	8.EE.A.1
5	$6y^6 \div 2y^3$ a) Show the expression in expanded form. b) Show the expression in exponential form.	a) $\frac{6 \times y \times y \times y \times y \times y \times y}{2 \times y \times y \times y}$ b) $3y^3$	8.EE.A.1
6	$(4g^3)^3$ a) Show the expression in expanded form. b) Show the expression in exponential form.	a) $(4 \times g \times g \times g) \times (4 \times g \times g \times g) \times (4 \times g \times g \times g)$ b) $64g^9$	8.EE.A.1

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Question number	Question	Answers	Standard
7	c^{-4} Show the expression in expanded form. b) Show the expression in exponential form.	a) $\frac{1}{c \times c \times c \times c}$ b) $\frac{1}{c^4}$	8.EE.A.1
8	$8z^{-2}$ a) Show the expression in expanded form. b) Show the expression in exponential form.	a) $\frac{8}{z \times z}$ b) $\frac{8}{z^2}$	8.EE.A.1
9	$s^4 \times s^{-3}$ a) Show the expression in expanded form. b) Show the expression in exponential form.	a) $(s \times s \times s \times s) \times \frac{1}{s \times s \times s} = \frac{s \times s \times s \times s}{s \times s \times s}$ b) s	8.EE.A.1
10	$12^0 = \underline{\hspace{2cm}}$	1	8.EE.A.1
11	$8^5 \times 8^2 = \underline{\hspace{2cm}}$	2,097,152	8.EE.A.1
12	$3^3 \div 3^6 = \underline{\hspace{2cm}}$	$\frac{1}{27}$	8.EE.A.1
13	$6(2)^4$	96	8.EE.A.1
14	$\frac{(4^2)^5}{7^3}$	3,057.073 *rounded	8.EE.A.1
15	$\frac{(x^3)^4}{x}$	x^{11}	8.EE.A.1
16	$\frac{12m^4n^2}{4m^3n}$	$3mn$	8.EE.A.1
17	$8a^3 \times 4a^2 \times a$	$32a^6$	8.EE.A.1

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Question number	Question	Answers	Standard
18	$7x^8 \div 7x^5 \times x^3$	x^6	8.EE.A.1
19	$\frac{3m^4n}{9m^2n^2}$	$\frac{m^2}{3n}$	8.EE.A.1
20	$(\frac{1}{2}a^5 \times \frac{4}{5}a^2)^2$	$\frac{2}{5}a^{14}$	8.EE.A.1

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