

Algebra 1 SOL Released Questions:

Exponents

Which represents this expression in simplest form?

$$\frac{15(x^{-2})^3}{3(x^{-4})^{-3}}$$

A $\frac{12}{x^6}$

B $12x^{18}$

C $\frac{5}{x^6}$

D $\frac{5}{x^{18}}$

Which of the following is equivalent to $\frac{x^4 y^3}{x^3 y^4}$?

F $\frac{x}{y}$

G $\frac{y}{x}$

H xy

J $x^7 y^7$

Which is equivalent to the following expression?

$$(-2xy)^3$$

- F** $-2xy^3$
- G** $-2x^3y^3$
- H** $-6x^3y^3$
- J** $-8x^3y^3$

Which expression is *not* equivalent to the following expression?

$$3 \times 3 \times 3 \times 3 \times 3 \times 3$$

- A $3^3 \cdot 3^2$
- B $3^1 \cdot 3^5$
- C 9^3
- D 27^2

Which expression is equivalent to the following expression?

$$(3x^2y^2)^3$$

- F** $3x^5y^5$
- G** $9x^5y^5$
- H** $9x^6y^6$
- J** $27x^6y^6$

What is the following product?

$$(2pq^2r^3)(5q^3r^4s)$$

F $7q^5r^7$

G $7q^6r^{12}$

H $10pq^5r^7s$

J $10pq^6r^{12}s$

Which is a simplified form of the following expression?

$$(xy^3)(xy)^4$$

- A** x^2y^7
- B** x^4y^{12}
- C** x^5y^7
- D** x^5y^{12}

Which is equivalent to the expression shown below?

$$3^2 \cdot 3^{-3}$$

A -3

B -1

C $\frac{1}{769}$

D $\frac{1}{3}$

When simplified, $(2x^2y^3)^4$ equals —

F $8x^6y^7$

G $8x^8y^{12}$

H $16x^6y^7$

J $16x^8y^{12}$

If $z \neq 0$,

$$\frac{24y^2z^3}{6z} =$$

A $18y^2z^2$

B $16y^2z^2$

C $4yz^3$

D $4y^2z^2$

Which is equivalent to p^6p^2 ?

A p^8

B $2p^8$

C p^{10}

D p^{12}

If $y \neq 0$, which expression is equivalent to the one shown below?

$$\left(\frac{xy^2}{y^4}\right)^6$$

F $\frac{x^6}{y^{12}}$

G $\frac{x}{y^2}$

H $\frac{x^7}{y^8}$

J $\frac{6x}{y^2}$

Which is equivalent to $\frac{b^6}{b^2}$?

A $\frac{1}{b^3}$

B b^3

C b^4

D b^8

Which is equivalent to

$$(-2ab^3)(-3a^2b^5)?$$

A $-5ab$

B $6a^2b^{15}$

C $6a^3b^2$

D $6a^3b^8$

If $ab \neq 0$, which is equivalent to

$$\frac{-12a^3b^2}{6ab^2}?$$

- F $2a^2b$
- G $-2a^2$
- H $-6a^2b$
- J $6a^4b^4$

Which is equivalent to $\frac{x^5 y^2 z^8}{(xy)^{-3}}$?

A $\frac{x^2 z^8}{y}$

B $x^{12} y^8 z^8$

C $\frac{-x^4 y z^8}{3}$

D $x^8 y^5 z^8$

Which is equivalent to $(2x^2)^3$?

F $8x^6$

G $6x^6$

H $8x^5$

J $6x^5$

Which is equivalent to $\frac{b^6}{b^2}$?

A $\frac{1}{b^3}$

B b^3

C b^4

D b^8

If $a \neq 0$, $(a^{-2})(a^2) =$

F $\frac{-1}{2}$

G 1

H 0

J 2