

QUESTION

For all nonzero values of x and y , which of the following expressions is equivalent to $-\frac{36x^4y^3}{4xy}$?

CORRECT ANSWER

$$-9x^3y^2$$

DISTRACTORS

$$-40x^3y^2$$

$$-32x^3y^2$$

$$-9x^5y^4$$

$$-9x^4y^3$$

QUESTION

Which of the following is equivalent to $(a^8)^{24}$?

CORRECT ANSWER

$$a^{192}$$

DISTRACTORS

$$192a$$

$$32a$$

$$8a^{24}$$

$$a^{32}$$

QUESTION

Which of the following is equivalent to $(3x^3)^{-2}$?

CORRECT ANSWER

$$\frac{1}{9x^6}$$

DISTRACTORS

$$\frac{1}{9x^9}$$

$$\frac{3}{x^6}$$

$$-6x^3$$

$$-9x^6$$

QUESTION

For any nonzero value of y , $(y^{-5})^3 = ?$

CORRECT ANSWER

$$\frac{1}{y^{15}}$$

DISTRACTORS

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

$$y^8$$

$$y^{15}$$

$$y^{125}$$

QUESTION

$3x^5 \cdot 7x^9$ is equivalent to:

CORRECT ANSWER

$$21x^{14}$$

DISTRACTORS

$$10x^4$$

$$10x^{14}$$

$$10x^{45}$$

$$21x^{45}$$

QUESTION

For all x , $2(-3x)^2$ is equivalent to:

CORRECT ANSWER

$$18x^2$$

DISTRACTORS

$$-36x^2$$

$$-18x^2$$

$$-6x^2$$

$$36x^2$$

QUESTION

For all positive values of s , t , and h , which of the following is equivalent to $\frac{(s^2)^3 t^2 (t)^3}{h^{-2}}$?

CORRECT ANSWER

$$s^6 t^5 h^2$$

DISTRACTORS

$$s^5 t^6 h^2$$

$$s^6 t^6 h^2$$

$$\frac{s^5 t^6}{h^2}$$

$$\frac{s^6 t^5}{h^2}$$

QUESTION

Which of the following expressions is equivalent to $\frac{(3x)^2}{x^5}$?

CORRECT ANSWER

$$\frac{9}{x^3}$$

DISTRACTORS

$$\frac{3}{x^3}$$

$$\frac{6}{x^3}$$

$$3x^7$$

$$6x^7$$

QUESTION

$4b^8 \cdot 5b^3$ is equivalent to:

CORRECT ANSWER

$$20b^{11}$$

DISTRACTORS

$$9b^5$$

$$9b^{11}$$

$$9b^{24}$$

$$20b^{24}$$

QUESTION

For all positive real numbers x , which of the following expressions is equivalent to $\frac{\left(\frac{x^{24}}{x^6}\right)}{\left(\frac{1}{x^2}\right)}$?

CORRECT ANSWER

$$x^{20}$$

DISTRACTORS

$$x^2$$

$$x^8$$

$$x^{12}$$

$$x^{16}$$

QUESTION

For nonzero values of x and y , which of the following expressions is equivalent to $-\frac{18x^3y^2}{3xy}$?

CORRECT ANSWER

$$-6x^2y$$

DISTRACTORS

$$-6x^3y^2$$

$$-6x^4y^3$$

$$-15x^2y$$

$$-21x^2y$$

QUESTION

$3x^9 \cdot 5x^9$ is equivalent to:

CORRECT ANSWER

$$15x^{18}$$

DISTRACTORS

$$8x^{18}$$

$$8x^{81}$$

$$15x^9$$

$$15x^{81}$$

QUESTION

Which of the following expressions is equivalent to $(x^5y^3z^2)(x^4y^3z^6)$ for all real values of x, y, and z?

CORRECT ANSWER

$$x^9y^6z^8$$

DISTRACTORS

$$x^9y^9z^8$$

$$x^{20}y^6z^8$$

$$x^{20}y^9z^{12}$$

$$x^{21}y^6z^{12}$$

QUESTION

For all $a > 0$, which of the following expressions is equal to a^{-2} ?

CORRECT ANSWER

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

DISTRACTORS

$$-2a$$

$$-a^2$$

$$\frac{1}{2a}$$

$$\frac{1}{\sqrt{a}}$$

QUESTION

Which of the following expressions is equivalent to $(3 + x)^{-100}$?

CORRECT ANSWER

$$\frac{1}{(3 + x)^{100}}$$

DISTRACTORS

$$-3^{100} - x^{100}$$

$$-300 - 100x$$

$$\frac{1}{3^{100}} + \frac{1}{x^{100}}$$

$$\frac{1}{(3x)^{100}}$$

QUESTION

Whenever x and y are nonzero, $\frac{(8x^5y^4)(6x^{13}y^3)}{16x^6y^{14}} = ?$

CORRECT ANSWER

$$\frac{3x^{12}}{y^7}$$

DISTRACTORS

$$3x^3y^2$$

$$\frac{3x^3}{y^2}$$

$$\frac{3x^6}{16y^{21}}$$

$$\frac{3x^{59}}{y^2}$$

QUESTION

Which of the following is equivalent to $(a^3)^{21}$?

CORRECT ANSWER

$$a^{63}$$

DISTRACTORS

$$63a$$

$$24a$$

$$3a^{21}$$

$$a^{24}$$