

1. The expression $\frac{24x^6y^3}{-6x^3y}$ is equivalent to

1. $-4x^2y^3$

2. $-4x^3y^3$

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

4. $-4x^3y^2$

$$-4x^3y^2$$

$$\frac{24}{-6} x^{6-3} y^{3-1}$$

2. What is the product of $3a^2b$ and $-2ab^3$?

1. a^2b^3

2. a^3b^4

3. $-6a^2b^3$

4. $-6a^3b^4$

$$3(-2)a^{2+1}b^{1+3}$$

$$-6a^3b^4$$

3. What is one-third of 3^6 ?

1. 1^2 2. 3^2

3. 3^5 4. 96

$$\frac{1}{3} \cdot 3^6 = \frac{3^6}{3} = 3^{6-1}$$

$$3^5$$

4. The expression is $\frac{(10w^3)^2}{5w}$ equivalent to

1. $2w^5$ 2. $2w^8$

3. $20w^5$ 4. $20w^8$

$$\frac{(10w^3)^2}{(10w^3)(10w^3)}$$

$$\frac{20w^5 \cdot 100w^6}{5w^1}$$

5. Which expression is equivalent to $3^3 \cdot 3^4$?

1. 9^{12}

2. 9^7

3. 3^{12}

4. 3^7

3^7

6. Which expression represents $\frac{27x^{18}y^5}{9x^6y}$ in simplest form?

1. $3x^{12}y^4$

2. $3x^3y^5$

3. $18x^{12}y^4$

4. $18x^3y^5$

$$\frac{27}{9} x^{18-6} y^{5-1}$$

$$3x^{12}y^4$$

7. What is the value of $3^0 + 3^{-2}$? $= 1 + \frac{1}{9}$

1. 0

2. $\frac{1}{9}$

3. $1\frac{1}{9}$

4. 6

$$3^0 = 1$$

$$3^{-2} = \frac{1}{3^2}$$

8. What is the value of 2^{-3} ?

1. $\frac{1}{6}$

2. $\frac{1}{8}$

3. -6

4. -8

$$= \frac{1}{2^3} = \frac{1}{8}$$

9.

If $x \neq 0$, then $\frac{(x^2)^3}{x^5} \cdot 1000$ is equivalent to

1. $1000x$
3. 1000

2. $1000 + x$
4. 0

$$\frac{x^6}{x^5} \cdot 1000$$

$$= x \cdot 1000$$

10. The expression $3^2 \cdot 3^3 \cdot 3^4$ is equivalent to

1. 27^9 2. 2724

3. 3^9 4. 324

$$3^{2+3+4} = 3^9$$

