

Name: SAMPLE Date: _____

BLUE Ch.10 Practice 1

Evaluate the expression. (1pt each)

1) 4^4
 $4 \times 4 \times 4 \times 4$

Answers

1) 256

2) -3^3
 $-3 \times 3 \times 3$

2) -27

3) $-\left(\frac{1}{4}\right)^3 = -\frac{1^3}{4^3} =$

3) $-\frac{1}{64}$

4) $(-3)^5$

4) -243

Simplify each expression. (1pt each)

5) $a \cdot a \cdot a \cdot a \cdot a$

5) a^5

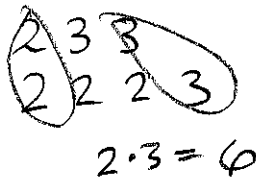
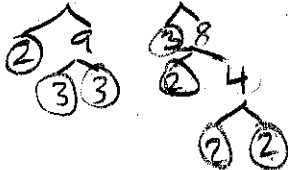
6) $g \cdot g^6 \cdot g^4$

$1 + 6 + 4$
 g

6) g^{11}

Find the Greatest Common Factor. (2pts each)

7) $18x^3y^6, 24x^3y^2$



Answer: $6x^3y^2$

Find the Greatest Common Factor. (2pts each)

8) $8c^2de, 24cd^3$

Answer:

$$8cd$$

Write in simplest form. (2pts each)

9) $\frac{5m^2n^6}{20mn^8}$

$$\frac{1}{4} \cdot \frac{m^2}{m} \cdot \frac{n^6}{n^8}$$

$$\frac{1}{4} \cdot \frac{m}{1} \cdot \frac{1}{n^2}$$

Answer:

$$\frac{m}{4n^2}$$

10) $\frac{9a^8b^6c}{3a^5b^{10}}$

$$\frac{3}{1} \cdot \frac{a^8}{a^5} \cdot \frac{b^6}{b^{10}} \cdot \frac{c}{1}$$

Answer:

$$\frac{3a^3c}{b^4}$$

11) $\frac{16g^2h}{4g^5h^2}$

$$\frac{4}{1} \cdot \frac{g^2}{g^5} \cdot \frac{h}{h^2}$$

Answer:

$$\frac{4}{g^3h}$$

Simplify. Write the expression using only positive exponents. (2pts each)

12) $8x^{-4} \cdot 7x^{-2}$

$$8 \cdot 7 \cdot x^{-4 + -2}$$
$$\frac{56}{x^6}$$

Answer:

$$\frac{56}{x^6}$$

13) $\frac{u^3h^7}{u^5h^2}$

$$u^{-2} \cdot h^7$$
$$\frac{1}{u^2} \cdot \frac{h^7}{1}$$

Answer:

$$\frac{h^7}{u^2}$$

Simplify. Write the expression using only positive exponents. (2pts each)

14) $\frac{(3g)^{-2}}{(f^2g)^5}$

$$\frac{3^{-2} g^{-2}}{f^{10} g^5}$$

$$\frac{1}{9} \cdot \frac{1}{g^7} \cdot \frac{1}{f^{10}}$$

Answer:

$$\frac{1}{9f^{10}g^7}$$

15) $\frac{wx^2}{w^3v^9}$

$$\frac{1}{w^2} \cdot \frac{x^2}{1} \cdot \frac{1}{v^9}$$

Answer:

$$\frac{x^2}{w^2v^9}$$

Write the number in scientific notation. (1pt each)

16) 575,000

Answer: 5.75×10^5

17) 0.0000345

Answer: 3.45×10^{-5}

Write the number in standard form. (2pts)

18) 5.9×10^{-6}

Answer: 0.0000059

19) 7.9×10^8

Answer: 790,000,000

20) 3.488×10^9

Answer: 3,488,000,000

Evaluate the expression. Write your answer in scientific notation. (2pts)

21) $(6.7 \times 10^{-7}) + (5.8 \times 10^{-7})$

$$\begin{array}{r} 6.7 \\ + 5.8 \\ \hline 12.5 \end{array}$$

Answer: 12.5×10^{-7}

22) $(6.8 \times 10^{-3}) - (8.5 \times 10^{-4})$

Answer: 5.95×10^{-3}

23) $(8.3 \times 10^3) \times (3 \times 10^{-6})$

$$\begin{array}{r} 8.3 \\ \times 3 \\ \hline 24.9 \end{array}$$

$$2.49 \times 10^1 \times 10^{3+(-6)}$$
$$2.49 \times 10^{-2}$$

Answer: 2.49×10^{-2}

24) $(6 \times 10^4) \div (1.5 \times 10^{-6})$

$$1.5 \overline{) 60} \times 10^{-4 - (-6)}$$

Answer: 4×10^2

25) $(7.26 \times 10^4) + (3.4 \times 10^4)$

$$\begin{array}{r} 7.26 \\ + 3.40 \\ \hline 10.66 \times 10^4 \\ 1.066 \times 10^5 \end{array}$$

Answer: 1.066×10^5

Evaluate the expression. Write your answer in scientific notation. (2pts)

26) $(2.8 \times 10^{-5}) - (1.6 \times 10^{-6})$

Answer: 2.64×10^{-5}

27) $(2.4 \times 10^4) \times (3.8 \times 10^{-6})$

$$\begin{array}{r} 2.4 \\ \times 3.8 \\ \hline 192 \\ + 720 \\ \hline 9.12 \end{array}$$

$9.12 \times 10^{4-6}$

Answer: 9.12×10^{10}

28) $(5.2 \times 10^{-3}) \div (1.3 \times 10^{-12})$

$$13 \overline{) 52}^4$$

$4 \times 10^{-3-(-12)}$

Answer: 4×10^9

29) It takes the Sun about 2.3×10^8 years to orbit the center of the Milky Way. It takes Pluto about 2.5×10^2 years to orbit the Sun. How many times does Pluto orbit the Sun while the Sun completes one orbit around the Milky Way? Write your answer in scientific notation.

$$2.3 \times 10^8 \div 2.5 \times 10^2$$

$$2.5 \overline{) 2.3}^{0.92}$$

$0.92 \times 10^{8-2}$
 $9.2 \times 10^{-1+6}$

Answer: 9.2×10^5 times