



ALAGU JOTHI ACADEMY

(An International Standard CBSE Sr. Sec. School)

ASSIGNMENT 2017-2018

8

Mathematics

Name : _____

Class : _____

Date : _____

Section : _____

EXPONENTS AND POWERS

I. Answer the following questions:

1. The usual form of 2.39461×10^6 is _____
2. If $36 = 6 \times 6 = 6^2$, then $\frac{1}{36}$ expressed as a power with the base 6 is _____
3. $3^5 \div 3^{-6}$ can be simplified as _____
4. The value of 3×10^{-7} is equal to _____
5. The standard form of 32, 50, 00, 00, 000 is _____
6. The standard form of 0.0000008 is _____
7. The usual form for 2.3×10^{-10} is _____
8. By solving $(6^0 - 7^0) \times (6^0 + 7^0)$ we get _____
9. The expression for 8^{-3} with a positive exponent is _____
10. The value of $(-7)^6 \div (7)^6$ is _____
11. $a^m \times b^m =$ _____
12. Find the multiplicative inverse of a) 3^{-6} b) 4^{-2} c) 10^{-5}

II. Simplify and write in exponential form.

- | | | |
|---------------------------------|-------------------------|--------------------------------|
| a. $(-2)^{-3} \times (-2)^{-4}$ | b. $p^3 \times p^{-10}$ | c. $3^2 \times 3^5 \times 3^6$ |
| d. $6^3 \times 4^3$ | e. $(2)^5 \times (3)^5$ | f. $18^4 \div 9^4$ |

III. Express using exponents:

- | | | |
|---|---|---|
| a. $7 \times 7 \times 7 \times 7 \times 7$ | b. $-5 \times -5 \times -5 \times -5$ | c. $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$ |
| d. $\frac{-1}{9} \times \frac{-1}{9} \times \frac{-1}{9} \times \frac{-1}{9}$ | e. $-10 \times -10 \times -10 \times -10$ | f. $\frac{1}{12} \times \frac{1}{12} \times \frac{1}{12} \times \frac{1}{12}$ |

IV. Evaluate:

a. $(3/5)^{-3}$

b. $(1/2)^{-5}$

c. $(2/7)^{-2}$

d. $(-4/11)^3$

e. $(6/7)^{-2}$

f. $(1/5)^{-3}$

V. Form the number from these expanded forms.

a. $6 \times 10^2 + 1 \times 10^1 + 7 \times 10^0 + 5 \times \frac{1}{10} + 7 \times \frac{1}{100}$

b. $9 \times 10^3 + 6 \times 10^2 + 4 \times 10^0 + 8 \times \frac{1}{100} + 1 \times \frac{1}{1000}$

c. $9 \times 10^2 + 7 \times \frac{1}{10} + 4 \times \frac{1}{100}$

VI. Write in standard form:

a. 5896.3

b. 247.052

c. 0.00568

d. 75980.24

e. 5478631

f. 0.00007

g. 785.246

h. 0.00000008

i. 6893.24

VII. Write in decimal form:

a. 0.4×10^6

b. 0.0072×10^3

c. 17×10^{-5}

d. 1.3×10^4

e. 2.5×10^5

f. 12.35×10^{-2}

g. 13.2×10^{-1}

h. 5.62×10^{-3}

i. 0.8×10^{-2}

VIII. Express the number appearing in the following statements in standard form.

a. The mass of the planet Uranus is 86,800,000,000,000,000,000,000 kg (approx).

b. The distance between the Sun and the planet Saturn about 1,433,500,000,000 m.

c. The volume of Jupiter is about 143,300,000,000,000 km³.

d. The diameter of the earth is 12756000 m.

e. The size of the bacteria is 0.0000007 mm.

f. The thickness of a wire is 0.0019 cm.

g. The height of the Mount Everest is 8848 m.

h. Average radius of the Sun is 695000 km.

i. The distance from Delhi to Kolkata is 2594 km.