



ST. LAWRENCE HIGH SCHOOL



A JESUIT CHRISTIAN MINORITY INSTITUTION

CLASS 8

SUBJECT :Algebra & Geometry

Work sheet 1 Answer Key

Marks:15

Exponents

Date:16.1..2021

Answer all the following questions(1×15=15)

Question 1.

$a^m \times a^m$ is equal to

- (a) a^{m+n}
- (b) a^{m-n}
- (c) a^{mn}
- (d) a^{n-m}

Answer: (a) a^{m+n}

Hint:

Formula

Question 2.

$a^m \div a^n$ is equal to

- (a) a^{m-n}
- (b) a^{m+n}
- (c) a^{mn}
- (d) a^{n-m}

Answer: (a) a^{m-n}

Hint:

Formula

Question 3.

$(a^m)^n$ is equal to

- (a) a^{m+n}
- (b) a^{m-n}
- (c) a^{mn}
- (d) a^{n-m}

Answer: (c) a^{mn}

Hint:

Formula

Question 4.

$a^m \times b^m$ is equal to

(a) $(ab)^m$

(b) $(ab)^{-m}$

(c) $a^m b$

(d) ab^m

Answer: (a) $(ab)^m$

Hint:

Formula

Question 5.

a^0 is equal to

(a) 0

(b) 1

(c) -1

(d) a

Answer: (b) 1

Hint:

Formula

Question 6

$2 \times 2 \times 2 \times 2 \times 2$ is equal to

(a) 2^4

(b) 2^3

(c) 2^2

(d) 2^5

Answer: (d) 2^5

Hint:

Formula

Question 7

In 10^2 , the exponent is

(a) 1

(b) 2

(c) 10

(d) 1

Answer: (b) 2

Hint:

Definition of exponent

Question 9.

In 10^2 the base is

- (a) 1
- (b) 0
- (c) 10
- (d) 100

Answer: (c) 10

Hint:

Definition of base

Question 10

$5^3 \times 5^{-1}$ is equal to

- (a) 5
- (b) 5^3
- (c) 5^{-1}
- (d) 5^2

Answer: (d) 5^2

Hint:

$$5^3 \times 5^{-1} = 5^{3-1} = 5^2$$

Question 11

$(-2)^{-5} \times (-2)^6$ is equal to

- (a) 2
- (b) -2
- (c) -5
- (d) 6

Answer: (b) -2

Hint:

$$(-2)^{-5} \times (-2)^6 = (-2)^{-5+6} = (-2)^1 = -2$$

Question 12

$3^2 \times 3^{-4} \times 3^5$ is equal to

- (a) 3
- (b) 3^2
- (c) 3^3
- (d) 3^5

Answer: (c) 3^3

Hint:

$$3^2 \times 3^{-4} \times 3^5 = 3^{2-4+5} = 3^3$$

Question 13

$(1/2)^{-4}$ is equal to

- (a) 2

- (b) 2^{-4}
- (c) 1
- (d) 2^{-4}

Answer: (b) 2^{-4}

Question 14

$(2^0 + 4^{-1}) \times 2^2$ is equal to

- (a) 2
- (b) 3
- (c) 4
- (d) 5

Answer: (d) 5

Question 15

$(2^{-1} + 3^{-1} + 5^{-1})^0$ is equal to

- (a) 2
- (b) 3
- (c) 5
- (d) 1.

Answer: (d) 1

Hint:

$$(2^{-1} + 3^{-1} + 5^{-1})^0 = 1 \quad [a^0 = 1]$$

Indranil Ghosh

