



# ST. LAWRENCE HIGH SCHOOL



A JESUIT CHRISTIAN MINORITY INSTITUTION

**CLASS 8**

**SUBJECT : Algebra and Geometry**

**Work sheet 13 answer key**

**Marks:15**

**Factorisation**

**Date:21.4.2020**

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

1. Which of the following is the common factor of  $21x^2y$  and  $35xy^2$  ?

(a) 7

(b)  $xy$

(c)  $7xy$

(d) none of these

Solution: c

2. Which of the following are the factors of  $1 - x^2$

(a)  $(x + 1)(x - 1)$

(b)  $(1 - x)(1 + x)$

(c)  $(1 - x)(1 - x)$

(d)  $(1 + x)(1 + x)$

Solution: b

3. Which of the following is the common factor of:  $5xy$ ,  $3pqr$  and  $40xyz$ ?

(a) 5

(b) 0

(c)  $xy$

(d) 1

Solution: d

4. Which of the following is quotient obtained on dividing  $-18xyz^2$  by  $-3xz$

(a)  $6yz$

(b)  $-6yz$

(c)  $6x$

(d)  $6xy$

Solution: b

5. Which of the following is quotient obtained on dividing  $(x^2 - b)(x - a)$  by  $-(x - a)$ ?

(i)  $(x^2 - b)$

(ii)  $\frac{-(x^2 - b)}{(x - a)}$

(iii)  $-(x^2 - b)$

(iv)  $-(x + a)$

Solution: iii

6. Which of the following are the factors of  $ab - a - b + 1$

(a)  $ab - a - b + 1 = (1 - a)(1 - b)$

(b)  $ab - a - b + 1 = -(a - 1)(b - 1)$

(c)  $ab - a - b + 1 = (1 - a)(b - 1)$

(d)  $ab - a - b + 1 = (a - 1)(1 - b)$

Solution: a

7. Which of the following are the factors of  $a^2 + ab + bc + ca$

(a)  $(b + c)(c + a)$

(b)  $(a + b)(a + c)$

(c)  $a(a + b + c)$

(d)  $(a + b)(b + c)$

Solution: b

8. Which of the following is equal to  $x^3 - 225x$

(a)  $x(1 - 15x)(1 + 15x)$

(b)  $x(x - 15)(x + 15)$

(c)  $x(1 - 15x)(1 - 15x)$

(d)  $x(1 + 15x)(1 - 15x)$

Solution: b

9. Which of the following is the factorisation of  $x^3 - x$ ?

(i)  $x(x - x^2)$

(ii)  $x[(1+x)(1-x)]$

(iii)  $x(x^2 - x)$

(iv)  $x[(x+1)(x-1)]$

Solution: iv

10.  $(y - x)(y + x)$  is equal to which of the following:

(i)  $y^2 - yx$

(ii)  $yx - x^2$

(iii)  $y^2 - x^2$

(iv)  $x^2 - y^2$

Solution: iij

11. Factorise :  $6xy - 4y + 6 - 9x$ .

a.  $(2y - 3)$

b.  $(3x - 2)$

c.  $(3x - 2)(2y - 3)$

d.  $(2x - 3)(3y - 2)$

Solution: c

12. Find the common factors of  $12x$ ,  $36$ .

a.  $12x$

b.  $x$

c.  $36$

d.  $12$

Solution: d

13. When we factorise an expression, we write it as a \_\_\_\_\_ of factors.

a. None of these

b. sum

c. product

d. difference

Solution: c

14. Find and correct the errors in the following mathematical statements.  $4(x - 5) = 4x - 5$

a.  $4(x - 5) = 4x - 20$

b. None of these

c.  $4(x - 5) = 4x - 16$

d.  $4(x - 5) = 4x - 24$

Solution: a

15. Divide as directed:  $26xy(x + 5)(y - 4) \div 13x(y - 4)$

a.  $(x + 5)$

b.  $2y(x + 5)$

c.  $2y$

d. None of these

Solution: b

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