

Class: Eight

Subject- Mathematics

Source: Photo of exercise are given below

Work: Complete exercise 8.1

Do your work neatly

Algebraic Expressions

Example 3: If $x = 3$ and $y = 2$, evaluate $x^2 - 2xy + y^2$.

Solution:

∴ ∴, when $x = 3$ and $y = 2$, then $x^2 - 2xy + y^2 = 3^2 - 2 \times 3 \times 2 + 2^2 = 9 - 12 + 4 = 1$

EXERCISE 8.1

General Section - Classwork

- Let's tell and write the polynomial expressions in the table.

Polynomials Expressions	
- Let's tell and write the degrees of these polynomials.

a) $3x$	b) $2p^2$	c) $4a^2b$
d) $7y - 1$	e) $2x^2 - 3x^2 + 6$	f) $9xy - 7x + 2y$
- Let's tell and write the values of the expressions as quickly as possible.

a) If $l = 4$ and $b = 3$, then (i) $l \times b =$	(ii) $2(l + b) =$
b) If $l = 5$, then (i) $l^2 =$	(ii) $l^3 =$
	(iii) $6l^2 =$

Creative Section

- Let's answer the following questions.
 - Why is $\frac{x^2}{2}$ is a polynomial but $\frac{2}{x^2}$ is not a polynomial?
 - Why is $\sqrt{2x}$ is not a polynomial but $\sqrt{2}x$ is a polynomial?
 - Define the degree of a polynomial with examples.
- Find the degrees of the following polynomials.

a) $2xyz$	b) $5a^2bc$	c) $3y^2 - 4y + 8$
d) $7x^2 - 2x^4 + 5x^3 - 7x^2 - 3x$	e) $x^2 + y^2 + z^2 - 3xyz$	f) $x^2y^2 - 2x^2y^2 + 7xy - 5$
- If $l = 5$ and $b = 3$, find the values of (i) $l \times b$ (ii) $2(l + b)$
 - If $l = 10$, $b = 8$ and $h = 5$, find the values of (i) $l \times b \times h$ (ii) $2h(l + b)$ (iii) $2(lb + bh + lh)$
 - If $r = 7$, $\pi = \frac{22}{7}$, find the values of (i) πr^2 (ii) $2\pi r$

Maths Book 8

d) If $a = 3$ and $b = 2$, find the values of

(i) $a^2 + 2ab + b^2$ and $(a + b)^2$

(ii) $a^2 + 2a^2b + 3ab^2 + b^3$ and $(a + b)^3$

(v) $(a + b)(a - b)$ and $(a^2 - b^2)$

(iii) $a^2 - 2ab + b^2$ and $(a - b)^2$

(iv) $a^2 - 3a^2b + 3ab^2 - b^3$ and $(a - b)^3$

(vi) $(a + b)^2 - 2ab$

7. a) Find the value of $\frac{P \times T \times R}{100}$ when $P = 200$, $T = 2$ and $R = 5$

b) Find the value of $p\left(1 + \frac{R}{100}\right)^T$ when $P = 100$, $R = 10$, $T = 2$

c) Find the value of (i) $2xrh$ (ii) $2ar(r + h)$ (iii) rx^2h when $x = \frac{22}{7}$, $r = 7$ and $h = 1$

8.4 Special products and formulae

(i) The product of $(a + b)$ and $(a + b)$: Square of binomials

Let's multiply $(a + b)$ by $(a + b)$

$$(a + b) \times (a + b) = a(a + b) + b(a + b)$$

$$\text{or, } (a + b)^2 = a^2 + ab + ab + b^2$$

$$\text{or, } (a + b)^2 = a^2 + 2ab + b^2$$

$$\text{Thus, } (a + b)^2 = (a^2 + 2ab + b^2)$$

$$\text{Also, } a^2 + b^2 = (a + b)^2 - 2ab$$



When the length a of the smaller square is increased by b , each side of the bigger square ABCD will be $(a + b)$

$$\text{Now, area of ABCD} = a^2 + ab + ab + b^2$$

$$(a + b)^2 = a^2 + 2ab + b^2$$

(ii) The product of $(a - b)$ and $(a - b)$

Let's multiply $(a - b)$ by $(a - b)$

$$(a - b) \times (a - b) = a(a - b) - b(a - b)$$

$$\text{or, } (a - b)^2 = a^2 - ab - ab + b^2$$

$$= a^2 - 2ab + b^2$$

$$\text{Thus, } (a - b)^2 = a^2 - 2ab + b^2$$

$$\text{Also, } a^2 + b^2 = (a - b)^2 + 2ab$$



When the length and breadth of the square ABCD is decreased by b ,

$$\text{Area of ABCD} = (a - b)^2 + b(a - b) + b(a - b) + b^2$$

$$\text{or, } a^2 = (a - b)^2 + ab - b^2 + ab - b^2 + b^2$$

$$\text{or, } a^2 = (a - b)^2 + 2ab - b^2$$

$$\text{or, } (a - b)^2 = a^2 - 2ab + b^2$$

(iii) The product of $(a + b)$, $(a + b)$ and $(a + b)$ (cube of binomials)

$$(a + b)(a + b)(a + b) = (a + b)(a + b)^2$$

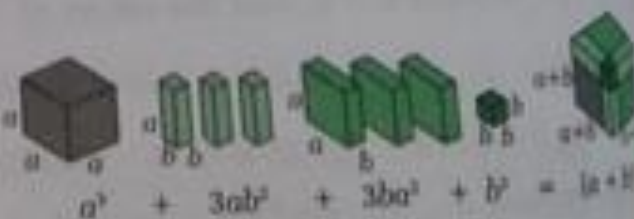
$$\text{or, } (a + b)^3 = (a + b)(a^2 + 2ab + b^2)$$

$$= a(a^2 + 2ab + b^2) + b(a^2 + 2ab + b^2)$$

$$= a^3 + 2a^2b + ab^2 + a^2b + 2ab^2 + b^3$$

$$= a^3 + 3a^2b + 3ab^2 + b^3$$

$$\text{Thus, } (a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$$



Subject- Social Studies

1. Make list of major highways of Nepal along with their length.

Subject- Moral

Unit 1-lesson 2 Moral Science

Activities Pg 16 qs 2 and 4

विषय – नेपाली

कोष्ठकमा दिइएका निर्देशनका आधारमा वाक्य परिवर्तन गर्नुहोस् । १ तिनीहरू नेपाली वषय-----
. पढ् । (एक वचन) २ म भेट्न आएको थएँ तर तिमी भेटिएनौ । (मश्रवाक्य) ३ साथीहरू बजार
गएका छन् । (प्रेरणार्थक) ४ काका निदाएपछि बर्बराउनु हुन्थ्यो । (अकरण) ५ तँ परीक्षा दिँदै थइस्
(एक वचन) ६ तिमीहरू देशक असल नागरिक हौं । (प्रथम पुरुष) ७ उनीहरू उत्तर लेखर बाहिरिने
छन् । (संयुक्त वाक्य) ८ क व राम्रा क वता लेख्छन् (स्त्री लङ्ग) ९ हजुरले उन्नति गर्नुभयो (निम्न
आदर)

The End.