

Framing Algebraic Expressions

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 21

**CHAPTER NAME:FRAMING ALGEBRAIC
EXPRESSIONS.**

SUB TOPIC:More Problems on Algebraic Expressions.

PERIOD NO:3

CHANGING YOUR TOMORROW

Learning outcomes

- Students will be able to evaluate algebraic expressions.
- Students will be able to convert real life situations into algebraic expressions and evaluate it for a given value.

Previous Knowledge Test

1. If $a = -10$, evaluate:

(i) $3a - 2$ (ii) $a^2 + 8a$

(iii) $1 / 5 \times a^2$ 20. If $x = -6$,

2. If $x = -6$, evaluate:

(i) $4x - 9$

(ii) $3x^2 + 8x$

(iii) $x^2 / 2$

Evaluate Polynomial

$$7x^2 - 12x + 13 \quad \text{when} \quad x=4$$

variable

Solution :

$$= 7(4)^2 - 12(4) + 13$$

$$= 7(16) - 12(4) + 13$$

$$= 112 - 48 + 13$$

$$= 64 + 13$$

$$= 77$$

Evaluation Question

Question 22.

If $p = -10$, evaluate :

(i) $6p + 50$ (ii) $3p^2 - 20p$

Solution: i) $6p+50=6(-10)+50$
 $=-60+50=-10$

Question 23.

If $y = -8$, evaluate :

(i) $6y + 53$ (ii) $y^2 + 12y$

Solution : i) $6y+53= 6(-8)+53$
 $=-48+53=5$

Evaluation Question

Question 24. If $x = 2$ and $y = -4$, evaluate :

(i) $11xy$ (ii) $5x^2y$

(iii) $(5y)^2$ (iv) $8x^2$

Solution:

$$11xy = 11 \times 2 \times (-4) = -88$$

Question 25. If $m = 9$ and $n = -2$, evaluate

(i) $4mn$ (ii) $2m^2n$ (iii) $(2n)^3$

Solution: $4 \times 9 \times (-2) = -72$

Evaluation Question

Question 26. If $m = -8$ and $n = -2$, evaluate :

(i) $12mn$ (ii) $3m^2n$ (iii) $(4n)^2$

Solution: $12(-8)(-2)=192$

Question 27. If $x = -5$ and $y = -8$, evaluate :

(i) $4xy$ (ii) $2xy^2$ (iii) $4x^2$ (iv) $3y^2$

Solution : $4(-5)(-8)=160$

Question 28. Find T , if $T = 2a - b$, $a = 7$ and $b = 3$.

Solution : $T=2(7)-3=14-3=11$

Question 29. From the formula $B = 2a^2 - b^2$, calculate the value of B when $a = 3$ and $b = -1$.

Solution: $B=2(3)^2-(-1)^2=18-1=17$

Evaluation Question

Question 30. The wages ₹ W of a man earning ₹ x per hour for t hours are given by the formula $W = xt$. Find his wages for working 40 hours at a rate of ₹ 39.45 per hour.

Solution:

$$W = 40 \times 39.45 = 1578 \text{ Rs}$$

Question 31.

The temperature in Fahrenheit scale is represented by F and the temperature in Celsius scale is represented by C . If $F = \frac{9}{5} \times C + 32$, find F when $C = 40$.

$$\text{Solution : } F = \frac{9}{5} \times 40 + 32 = 72 + 32 = 104$$

Additional Homework

1. In $-5x^3y^2z^4$; write the coefficient of:

(i) z^2

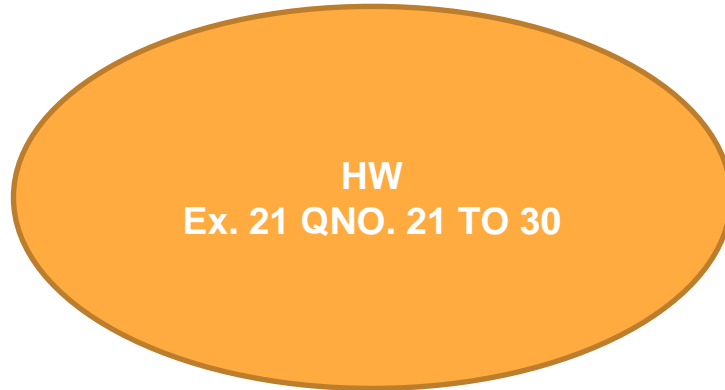
(ii) y^2

(iii) yz^2

(iv) x^3y

(v) $-xy^2$

(vi) $-5xy^2z$



THANKING YOU
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