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Framing Algebraic Expressions

SUBJECT : MATHEMATICS
CHAPTER NUMBER: 21
CHAPTER NAME:FRAMING ALGEBRAIC EXPRESSIONS.
SUB TOPIC: More Problems on Algebraic Expressions.
PERIOD NO:3

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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 × $a^2$20. If x = – 6,

2. If x = – 6, evaluate:

(i) 4x – 9

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

(iii) $x^2 / 2$

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Evaluate Polynomial

$7x^2 - 12x + 13$ when $x=4$

variable

Solution :

$$= 7(4)^2 - 12(4) + 13$$
$$= 7(16) - 12(4) + 13$$
$$= 112 - 48 + 13$$
$$= 64 + 13$$
$$= 77$$

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Evaluation Question

Question 22.

If p = -10, evaluate :

(i) $6p + 50$ (ii) $3p^2 – 20p$

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

$=-60+50=-10$

Question 23.

If y = -8, evaluate :

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

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

$=-48+53=5$

Evaluation Question

Question 24.If x = 2 and y = -4, evaluate :
(i) 11xy (ii) $5x^2y$
(iii) $(5y)^2$ (iv) $8x^2$

Solution:
11xy= 11x2x(-4)=-88

Question 25.If m = 9 and n = -2, evaluate
(i) 4mn (ii) $2m^2n$ (iii) $(2n)^3$

Solution: 4x9x(-2)=-72

Evaluation Question

Question 26. If m = -8 and n = -2, evaluate :
(i) 12mn (ii) $3m^2n$ (iii) $(4n)^2$

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

Question 27.If x = -5 and y = -8, evaluate :
(i) 4xy (ii) $2xy^2$ (iii) $4x^2$ (iv) $3y^2$

Solution :i)4 x(-5)x(-8)=160
Question 28.Find T, if T = 2a – b, a = 7 and b = 3.

Solution : T=2x7-3=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=2x3x3-(-1)x(-1)=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= 40x39.45=1578 Rs

Question 31.
The temperature in Fahrenheit scale is represented by F and the temperature in Celsius scale is represented by C. If F = 9/5 x C + 32, find F when C = 40.

Solution : F=9/5x 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) $-5xy^2z$**

HW
Ex. 21 QNO. 21 TO 30

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