INTERNATIONAL INDIAN SCHOOL BURAIDAH

Worksheet for the Academic Year 2026-27

CLASS: IX SUBJECT: Mathematics DATE: 08/06/26

LESSON 2 : INTRODUCTION TO LINEAR POLYNOMIALS

1. If (2, -1) lies on the graph ky = -3x+ 1 , the value of k is

[a) 5 b) -5 c) 0 d) 1]

2. Graph of which of the following equation passes through the origin.

[a) 2x+3y = 1 b) 2x+3y = 0 c) 2x+ 3y = 6 d) 3x-2y = 5]

3. Which of the following graph does not passes through the origin.

[a) y = 2/5 x b) y = x c) x – y = 0 d) x + y = 1]

4. Any point on the line y = x is of the form

[a) (0 , a) b) (a, 0) c) (-a, 0) d) (a, a)]

5. Slope of , 3x – 2y- 4 = 0 is

[a) -2 b) 3 c) 3/2 d) 2/3]

6. Slope of x-axis is

[a) 0 b) 1 c) -1 d) not defined]

7. y- intercept of y = x is

[a) 1 b) 0 c) -1 d) not defined]

8. The line which is parallel to the graph of $y = 7x + 3\ is$

[a) $y = 3x + 7$ $b)\ y = 3x - 7$ $c)\ y = 7x - 5$ $d)\ y = 3x$]

9. If the graph of $5x - 3y + 2 = 0\ and\ 10x + ky + 4 = 0\ are\ parallel, then\ k\ is$

[a) 3 b) -3 c) 6 d) -6]

10. If the y- intercept of $x - 2y + 4 = 0\ and\ x + 2y + p = 0\ are\ equal, then\ value\ p$

Is

[a) 4 b) -4 c) 2 d) -2]

11. Which of the following are polynomials and which are not ?

a) $a^2 + \sqrt{3}$ $b)\ x^{25} + y^{10} - t^{15}$ $c)\ 5\sqrt{z} + \sqrt{2}\,z$

d) $6y^2 - \frac{5}{y} + 3y$ $e)\ \frac{1}{x^{-3}} + \frac{2}{x^{-2}} + \frac{1}{\sqrt{3}}$

12. For the polynomial , $\frac{3x^3+5x^2-2}{5} - \frac{7}{2}x + 6, write$

a) coefficient of x^3 b) coefficient of x^2 c) coefficient of x.

13. Determine the degree of the following polynomials.

a) $x^5 + 6x^2 - 9x^7 + 5$ $b)\ y^3(1 - y^2)$ $c)\ (t - 2\ )\ (t + 2\ )$

14. Ram earns Rs. 28000 per month. His salary increases by Rs. 2500 every year.

i) Make a table of values for n varying from 0 to 10 years and show the salary, s, increases every year.

ii) form a linear expression for the salary after n years.

iii) find the salary after 15 years.

15. A mobile phone battery is 90% charged and decreased by 10% every hour.

i) Make a table of values for t varying from 0 to 24 hours and show the charge , c, decreases every hour.

ii) form a linear expression for the charge after t hours.

iii) find the battery charge after 12 hours.

16. A part of hostel charges is fixed and the remaining depends on the number of days one has taken food in the mess. When a student A takes food for 20 days she has to pay Rs. 3000 as hostel charge, whereas student B, who takes food for 26 days pays, Rs. 3600 as hostel charges. If the hostel charge y depends on the number of days, x, according to the relation y = ax + b, find the values of a and b. [Ans:100, 1000

17. A lending library has fixed charge for first three days and an additional charge for each day thereafter. Riya paid Rs. 27 for a book kept for seven days, while Rida paid Rs. 21 for the book kept for five days. If the charge y depends on the number of days, x, according to the relation y = ax + b, find the values of a and b. [Ans: 3, 15

18. Draw the graph of the following sets of lines. In each case reflect the role of a and b.

i) $y = -2x,\ y = -\frac{1}{2}x\ , y = -x$ $ii)\ y = \frac{1}{4}\ x\ , y = -\frac{1}{4}x$

iii) $y = -3x + 2,\ y = -3x, y = -3x - 2$ iv) $y = x - 2,\ y = 2x + 1\ , y = 3x - 4$