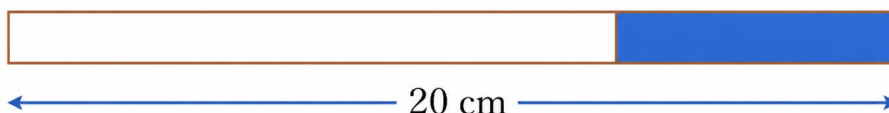


INTRODUCTION TO LINEAR POLYNOMIALS**END OF CHAPTER EXERCISE (FOR PRACTICE)**

- Q 1. The value of the polynomial $5x - 4x^2 + 3$, when $x = -1$ is:
(a) -6 (b) 6 (c) 2 (d) -2
- Q2. The auto-rickshaw fare in a city is charged ₹ 10 for the first kilometer and ₹4 per kilometer for subsequent distance covered. The linear equation to express the statement is: [Assume that the total distance covered is x km and the fare charged is ₹ y]
(a) $y = 4x + 10$ (b) $y = 4x + 6$
(c) $y + 4x = 10$ (d) $y + 4x = 6$
- Q 3. If $p(x) = x^2 - 2\sqrt{2}x + 1$, then $p(2\sqrt{2})$ is equal to:
(a) 0 (b) 1 (c) $4\sqrt{2}$ (d) $8\sqrt{2} + 1$
- Q4. See the measurements below with two sticks - one WHITE and one BLUE. What is the length of the BLUE stick?



- (a) 15 cm (b) 10 cm (c) 7.5 cm (d) 4.5 cm
- Q5. If $(a, 1)$ lies on the graph of $3x - 2y + 4 = 0$, then the value of a is:
(a) $-\frac{2}{3}$ (b) $\frac{2}{3}$ (c) $\frac{3}{2}$ (d) $-\frac{3}{2}$



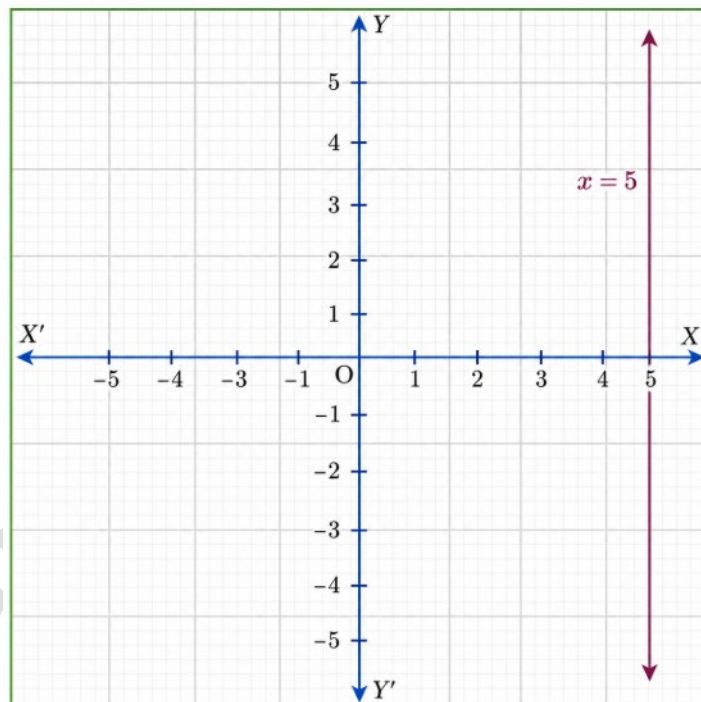
- Q6. The polynomial in x is $x^2 + kx + 5$, where k is a constant. At $x = 2$, the value of the polynomial is 15. What is the value of the polynomial at $x = 5$?
- (a) 3 (b) 18 (c) 35 (d) 45

The following questions are Assertion and Reason based questions. Two statements are given, one labelled as Assertion (A) and the other is labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below.

- (a) Both A and R are true, and R is the correct explanation of A .
(b) Both A and R are true, but R is not the correct explanation of A .
(c) A is true, but R is false.
(d) A is false, but R is true.

- Q 7. Assertion (A) : The graph of $x = 5$ is:

Reason (R) : The graph of $x = a$ is a straight line parallel to x -axis.



- Q8. Assertion (A) : The constant term of the polynomial $2x^3 - x^2 + 4x + 7$ is 7 .
Reason (R) : The constant term in a polynomial is the term that does not contain any variable.
- Q9. Assertion (A) : The polynomial $x^3 + 3x^2 + 3x - 1$ is a cubic polynomial.
Reason (R) : A cubic polynomial is defined as having the highest exponent of variable equal to 3.



Q 10. Assertion (A) : A polynomial of degree n can have at most $(n + 1)$ terms.

Reason (R): The degree of a polynomial represents the highest exponent of the variable.

Q 11. Find the value of the quadratic polynomial $-4s^2 + 15s - 22$ if:

(a) $s = -3$

(b) $s = 0$

(c) $s = 5$

Q 12. Write the equation of the line that is parallel to x -axis and passing through the point

(i) $(0,6)$

(ii) $(3, -8)$

(iii) $(4,6)$

Q 13. Find the values of $p(0)$, $p(1)$ and $p(2)$ for each of the following polynomials:

(i) $p(x) = 3x^2 - 5x + 4$

(ii) $p(t) = 2 + 3t + 2t^2 - 5t^3$

(iii) $p(y) = (y - 1)(y + 1)$

Q 14. Determine the point on the graph of the equation $2x + 3y = 16$, whose y -coordinate is 2 times its abscissa.

Q 15. Determine the point on the graph of the linear equation $2x + 5y = 19$, whose ordinate is $1\frac{1}{2}$ times its abscissa.

Q 16. Rahul has 5 times as much money in his piggy bank as his little sister. Their father gives each of them ₹21. Now, Rahul has exactly twice as much money as his sister. How much money did each of them have initially?

Q 17. Riya participates in Diwali Mela with her friends for charity at a centre for children with disabilities. They donate ₹ 3600 to the centre from the amount earned in Mela. Each girl donates ₹ 150 and each boy donates ₹ 200 .

(a) Assuming number of girls and boys are x and y respectively. Represent the above situation as a linear equation.

(b) If number of girls are 8, find number of boys.

Q 18. A student, Ritu wants to issue a book from a library. So she asked the library teacher for the charges. The teacher told her that there is a basic charge for issuing a book from the library. For one day the charge of issuing a book is ₹5. Thereafter, there is an additional charge of ₹ 1 per day for late deposit. Ritu took one book for x days and let ₹ y be the total amount that needs to be paid.

Based on the above information, answer the following questions:

(i) Represent the above situation in linear equation.

(ii) If Ritu issued the book for 6 days, then find the total amount she needs to pay.

(iii) If Ritu paid a total amount of ₹22, then for how many days did she keep the book with her?



1. a 2. b 3. b 4.c 5.a 6.d 7.c 8.a 9.a 10. b
11. (i) -103 (ii) -22 (iii) -47
12. (i) $y = 6$ (ii) $y = -8$ (iii) $y = 6$
13. (i) 4; 2; 6 (ii) 2; 2; and - 24 (iii) - 1; 0; 3
14. (2,4)
15. (2,3)
16. ₹7; ₹35
17. (a) $150x + 200y = 3600$ (b) 12
18. (i) $y - x = 4$
(ii) ₹ 10
(iii) 18 days

