

PRE MID PRACTICE QUESTIONS (2026-27)

1. If the polynomial $2x + 5$ is plotted, what will the line's y-intercept be?
(a) 2 (b) 5 (c) 0 (d) -5
2. The cost of a journey is represented by the linear function $C(d) = 100 + 60d$, where d is the distance in km. What is the cost for 5 km?
(a) 300 (b) 400 (c) 500 (d) 600
3. What is the slope of the line represented by the equation $y = 2x + 7$?
(a) 7 (b) 2 (c) -2 (d) 0
4. Which of the following represents a linear growth pattern?
(a) $y = 2x + 5$ (b) $y = x^2 + 5$ (c) $y = 5x^3 + 3x + 2$ (d) $y = x^2$
5. Which of the following is the coefficient of f^2 in $(4 + 4f^2)(\frac{3}{2} - 5)$?
(a) -8 (b) 8 (c) 12 (d) 20
- Choose the correct option for the following:
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
(c) Assertion (A) is true, but Reason (R) is false.
(d) Assertion (A) is false, but Reason (R) is true.
6. **Assertion (A):** Linear decay describes a pattern where a quantity increases by a fixed amount over equal intervals.
Reason (R): In the equation $y = ax + b$, a negative value of 'a' represents a decreasing rate.
7. **Assertion (A):** The lines $y = 3x + 2$ and $y = 3x + 5$ are parallel to each other.
Reason (R): Two lines are parallel if they have the same slope a but different y-intercepts b .
8. If breadth of a rectangle is 13 cm and length is x cm, write the expression for the area of a rectangle. What is the area for $x = 5$ cm?
9. For what value of c , the linear equation $2x + cy = 8$ has equal values of x and y for its solution?
10. Let y varies directly as x . If $y = 12$ when $x = 4$, then write a linear equation. What is the value of y , when $x = 5$?
11. Five years hence a man's age will be three times his son's age. Write a linear equation in two variables to represent this statement.
12. Seven times a given two-digit number is equal to four times the number obtained by interchanging the digits. Write a linear equation in two variables to represent this statement.
13. A professional photographer buys a high end DSLR camera for ₹ 45,000. Due to the release of newer models and wear and tear, the market value of the camera decreases at a constant rate of ₹ 3,500 per year.
(i) Find the market value of the camera exactly 4 years after the date of purchase.
(ii) Create a table showing the value of the camera, v , for time t varying from 0 to 6 years.
(iii) Find a linear expression that relates the value v to the time t (in years).
(iv) Explain why this specific relationship represents linear decay.
(v) After how many years will the camera's value drop below ₹ 15,000?
14. Consider the expression $P(x) = x(x + 4) - x^2 + 7$. A student claims this is a quadratic polynomial. Prove whether the student is correct or incorrect by simplifying the expression.
15. Draw the graphs of the following sets of lines.
(i) $y = 2x - 1$, $y = 2x$, $y = 2x + 1$
(ii) $y = -2x - 5$, $y = -2x$, $y = 2x + 5$
16. The following observed values of x and y are thought to satisfy a linear equation.

x	6	-6	-9	9	12	-12
y	-2		8			

(i) Identify other points on the line by completing the given table.

(ii) Write the linear equation.

(iii) Draw the graph using the values of x , y given in the above table. At what points, the graph of the linear equation cuts the x -axis and the y -axis?

17. The taxi fare in a town is ₹ 15 for the first kilometre and ₹ 10 per kilometre for the subsequent distance. Deepak came to visit his grandparents for the summer break in school.

(i) Taking the distance as ' x ' km and total fare as ₹ y , write a linear equation for the above information.

(ii) Deepak hired a taxi from train station for 15 km, how much money he has to pay at the end of the trip?

(ii) Next day Deepak hired a taxi for 10 km and paid Rs 200 for it.

He asked the-taxi-driver to donate the balance to an orphanage. What amount will the taxi-driver donate to the orphanage?



18. In a one-day cricket match, the organiser decided to donate as much money to an old-age home as the run scored by the first pair of batsman. Ratan and Naval were the opener batsman. They together scored ' N ' runs such that for every 1 run of Ratan, Naval scored 3 runs.

(i) Set up a linear equation with x and y representing the number of runs of Ratan and Naval respectively.

(ii) Find the number of runs scored by Ratan, if Naval scored 180 runs.

(iii) If Ratan's score is 99, then what amount of money will be donated to the old-age home by the organiser?

OR

If Naval scored 126 runs, then how many runs have Ratan scored?

