

## Sheet ( 1 )

### Choose the correct answer :

**Q :** By drawing the straight line that passes through the points (5, 7) and (8, 2) on a grid, determine which of the following is the equation of this line.

- ☐ A  $3y = 5x - 46$
- ☐ B  $3y = 5x + 46$
- ☐ C  $3y = 5x + 9$
- ☐ D  $3y = -5x - 9$
- ☐ E  $3y = -5x + 46$

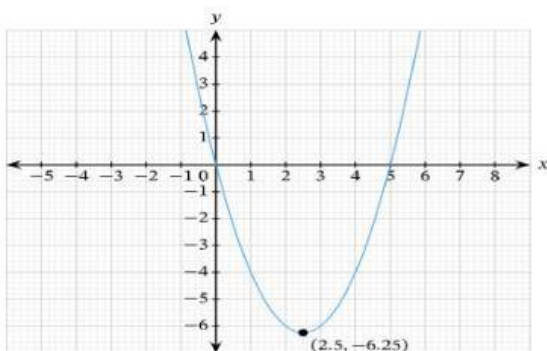
**Q :** Does the line representing the function  $f(x) = 3 - x$  have a positive or a negative slope?

- ☐ A Negative slope
- ☐ B Positive slope

**Q :** Find the coordinates of the point of intersection of the linear equation  $3y - 5x + 8 = 0$  with the  $y$ - and  $x$ -axes.

- ☐ A  $(0, -\frac{3}{8})$  and  $(\frac{8}{5}, 0)$
- ☐ B  $(-\frac{8}{3}, 0)$  and  $(\frac{8}{5}, 0)$
- ☐ C  $(0, \frac{3}{8})$  and  $(-\frac{8}{5}, 0)$
- ☐ D  $(0, -\frac{8}{3})$  and  $(\frac{8}{5}, 0)$
- ☐ E  $(0, \frac{8}{3})$  and  $(-\frac{8}{5}, 0)$

Q : Write the quadratic equation represented by the graph shown. Give your answer in factored form.



- ☐ A  $y = x(x - 5)$
- ☐ B  $y = -x(x + 5)$
- ☐ C  $y = (x - 9)^2$
- ☐ D  $y = x(x + 5)$
- ☐ E  $y = -x(x - 5)$

Q : Determine  $\lim_{x \rightarrow \infty} \frac{(5x^2 + 3)^2}{(3x - 2)^2(x^2 - 2x)}$ , if it exists.

- ☐ A  $\frac{25}{9}$
- ☐ B  $\frac{5}{9}$
- ☐ C 0
- ☐ D The limit does not exist.
- ☐ E  $\frac{9}{4}$

Q : Find  $\lim_{x \rightarrow \infty} \frac{8x^4 - 4x^3 - 2x^2 + 9x - 6}{-5x^4 - 6x^3 - 2x^2 - 7x + 3}$ .

- ☐ A  $\infty$
- ☐ B  $-\infty$
- ☐ C  $\frac{8}{5}$
- ☐ D  $-\frac{8}{5}$

Q : If  $f(x)$  is a polynomial function of the first degree and  $g(x)$  is a polynomial function of the sixth degree, find  $\lim_{x \rightarrow \infty} \frac{g(x)}{4x^4 f(x)}$ .

- ☐ A A real number  $\neq 0$
- ☐ B Zero
- ☐ C  $\pm\infty$
- ☐ D It has no limit.

Q : Find  $\lim_{x \rightarrow \infty} \frac{-5x^{-4} + 5x^{-3} - x^{-2} + 6x^{-1} + 5}{7x^{-4} + 8x^{-3} + x^{-1} - 9}$ .

- ☐ A  $\infty$
- ☐ B  $-\frac{5}{9}$
- ☐ C  $\frac{5}{9}$
- ☐ D  $-\infty$