

4. June/2019/Paper_2/No.2

Which of the straight lines given below is an asymptote to the curve

$$y = \frac{ax^2}{x-1}$$

where a is a non-zero constant?

Circle your answer.

[1 mark]

$$y = ax + a$$

$$y = ax$$

$$y = ax - a$$

$$y = a$$

5. June/2019/Paper_2/No.3

The set \mathcal{A} is defined by $\mathcal{A} = \{x : -\sqrt{2} < x < 0\} \cup \{x : 0 < x < \sqrt{2}\}$

Which of the inequalities given below has \mathcal{A} as its solution?

Circle your answer.

[1 mark]

$$|x^2 - 1| > 1$$

$$|x^2 - 1| \geq 1$$

$$|x^2 - 1| < 1$$

$$|x^2 - 1| \leq 1$$

6. June/2019/Paper_2/No.4

The positive integer k is such that

$$\sum_{r=1}^k (3r - k) = 90$$

Find the value of k .

[3 marks]
