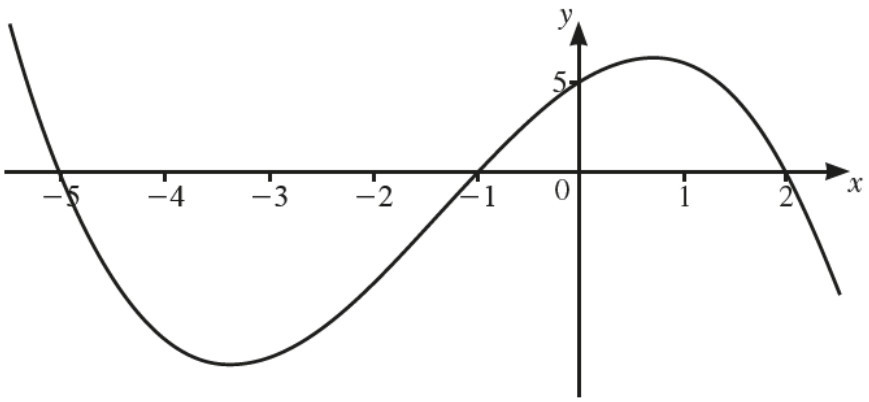
1. Nov/2020/Paper_12/No.2



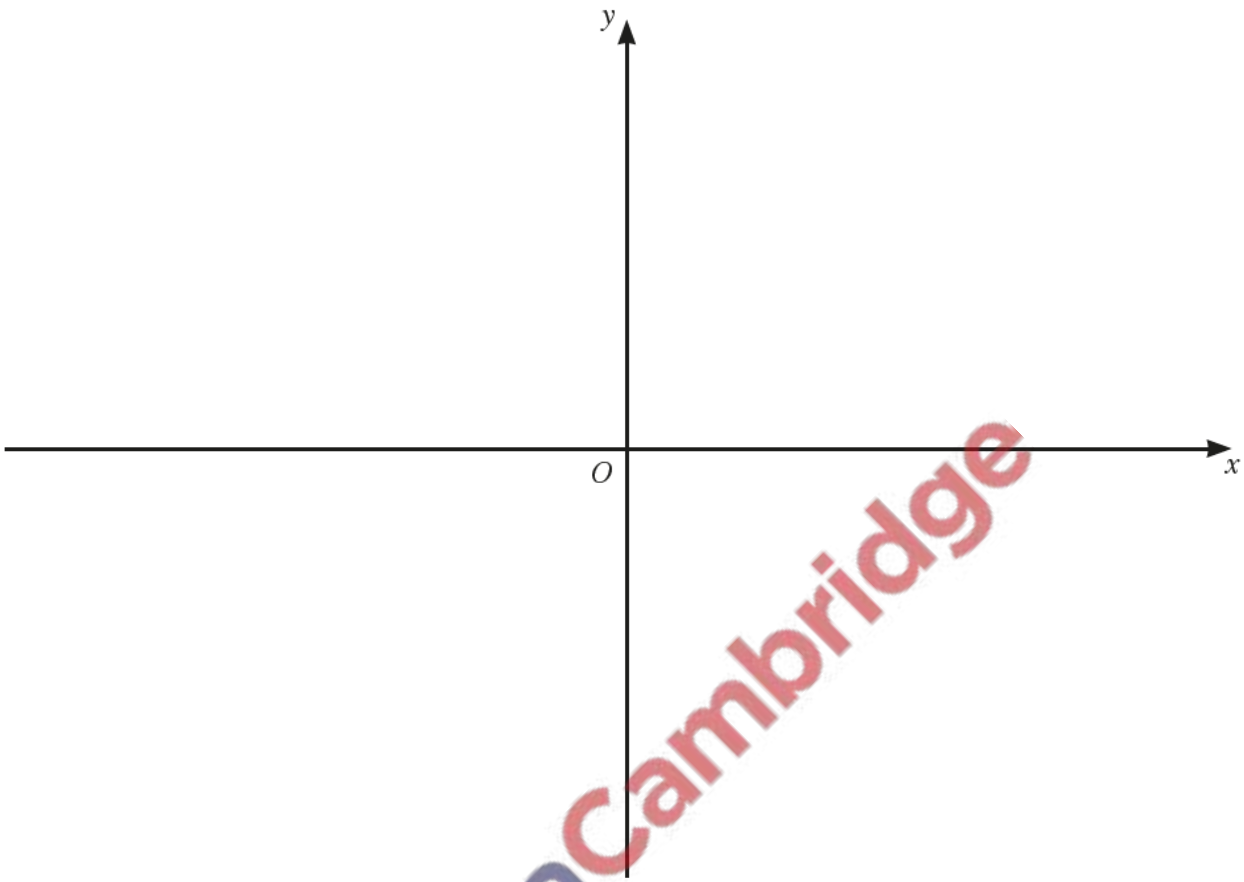
The diagram shows the graph of $y = f(x)$, where $f(x)$ is a cubic polynomial.

(a) Find $f(x)$. [3]

(b) Write down the values of x such that $f(x) < 0$. [2]

2. Nov/2020/Paper_13/No.1

(a) On the axes below, sketch the graph of $y = (x-2)(x+1)(3-x)$, stating the intercepts on the coordinate axes.



[3]

(b) Hence write down the values of x such that $(x-2)(x+1)(3-x) > 0$. [2]

3. Nov/2020/Paper_22/No.1

Solve the inequality $(x-8)(x-10) > 35$. [4]

4. Nov/2020/Paper_22/No.3

(a) Find the equation of the perpendicular bisector of the line joining the points (12, 1) and (4, 3), giving your answer in the form $y = mx + c$. [5]

(b) The perpendicular bisector cuts the axes at points A and B. Find the length of AB. [3]

5. Nov/2020/Paper_23/No.1

Solve $|3x-2| = 4+x$. [3]

6. June/2020/Paper_11/No.6

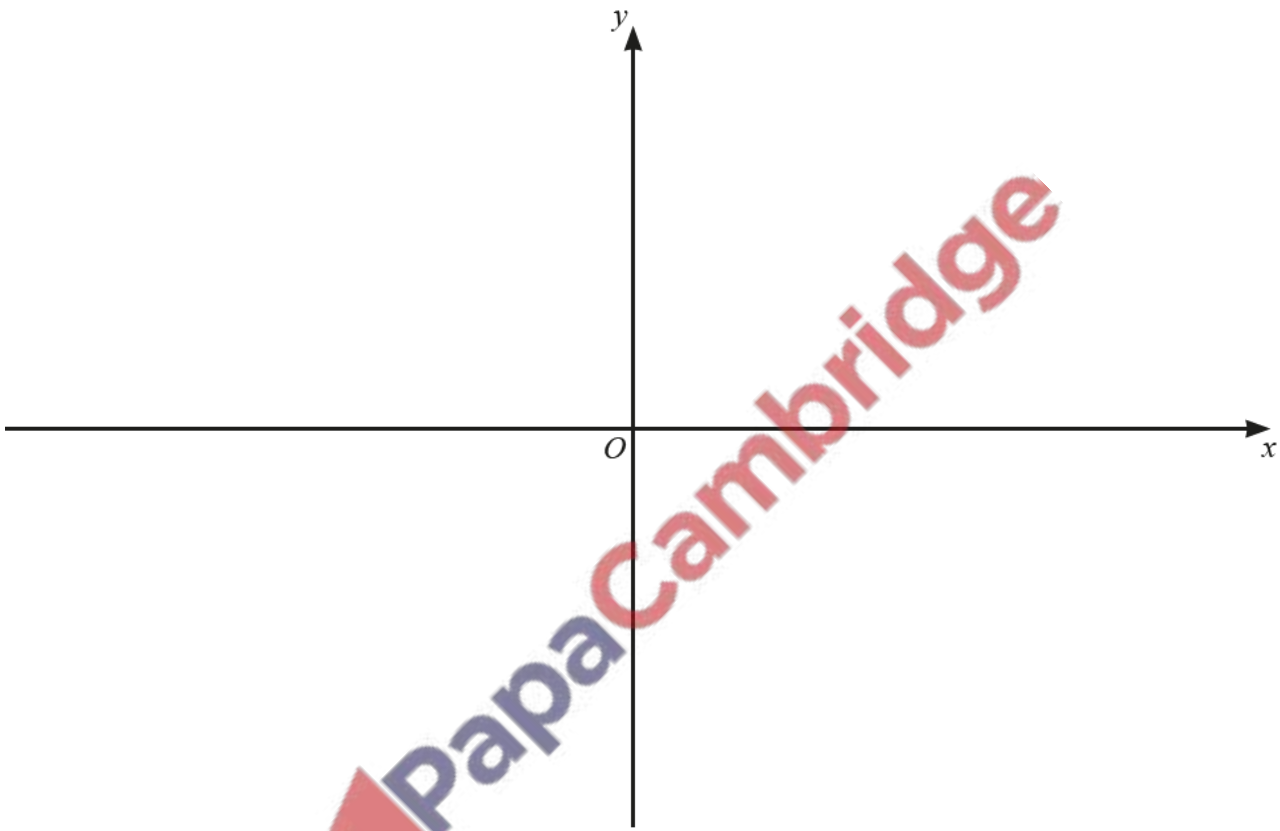
The line $y = 5x + 6$ meets the curve $xy = 8$ at the points A and B.

(a) Find the coordinates of A and of B. [3]

(b) Find the coordinates of the point where the perpendicular bisector of the line AB meets the line $y = x$. [5]

7. June/2020/Paper_12/No.1

On the axes below, sketch the graph of $y = |(x-2)(x+1)(x+2)|$ showing the coordinates of the points where the curve meets the axes. [3]



8. June/2020/Paper_22/No.5

Solutions to this question by accurate drawing will not be accepted.

The points A and B are $(4, 3)$ and $(12, -7)$ respectively.

(a) Find the equation of the line L, the perpendicular bisector of the line AB. [4]

(b) The line parallel to AB which passes through the point $(5, 12)$ intersects L at the point C. Find the coordinates of C. [4]

9. June/2020/Paper_22/No.6

(a) Find the equation of the tangent to the curve $2y = \tan 2x + 7$ at the point where $x = \frac{\pi}{8}$.

Give your answer in the form $ax - y = \frac{\pi}{b} + c$, where a, b and c are integers. [5]

(b) This tangent intersects the x-axis at P and the y-axis at Q. Find the length of PQ. [2]