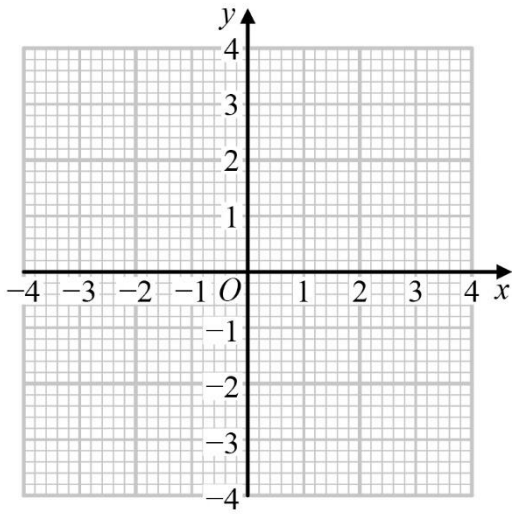
NAME

Time:

Calculator Questions

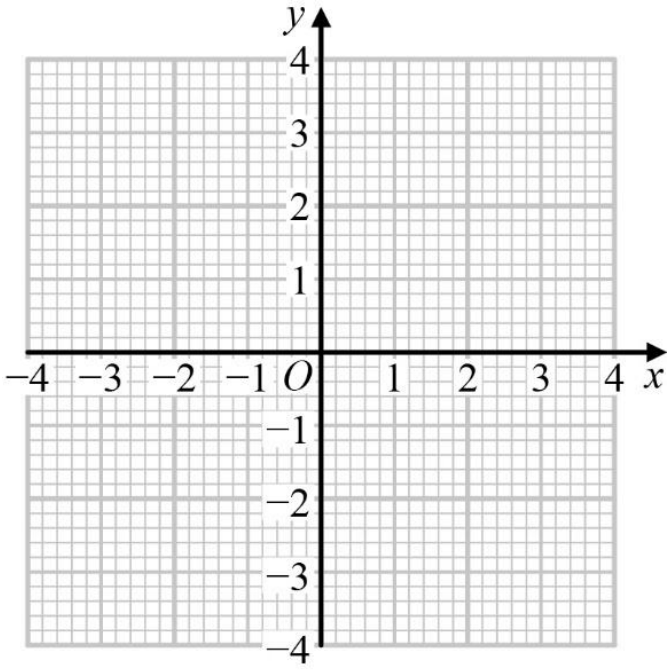
1 On the grid below show, by shading, the region $x \leqslant 2$



(2 marks)

3 On the grid below show, by shading, the region defined by the inequalities

$-2 \leqslant x \leqslant 1$ **and** $-1 \leqslant y \leqslant 2$



(3 marks)

9th

5 In a coffee shop

Boris buys 3 cups of coffee and 2 cups of tea for £13.20

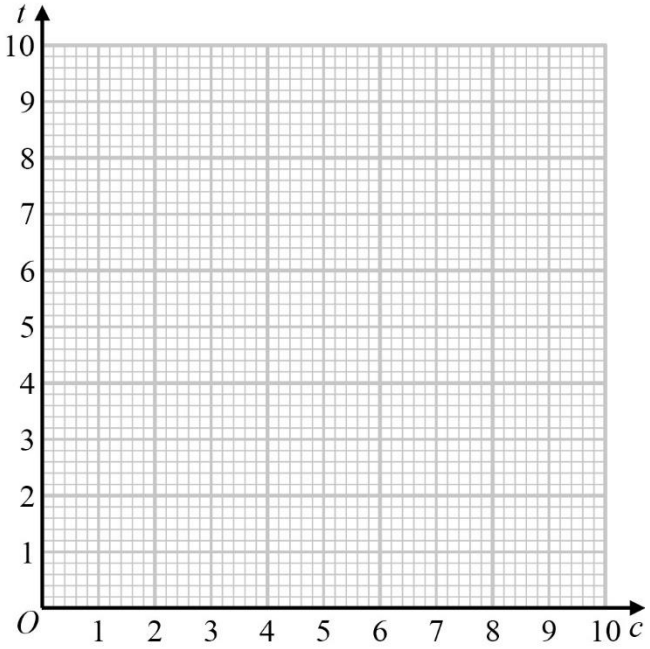
Mehudin buys 1 cup of coffee and 3 cups of tea for £10

a Using c for the cost of a cup of coffee and t for the cost of a cup of tea, write down a pair of simultaneous equations for the above information.

(2 marks)

6th

b On the grid, draw the graphs of your equations.



(2 marks)

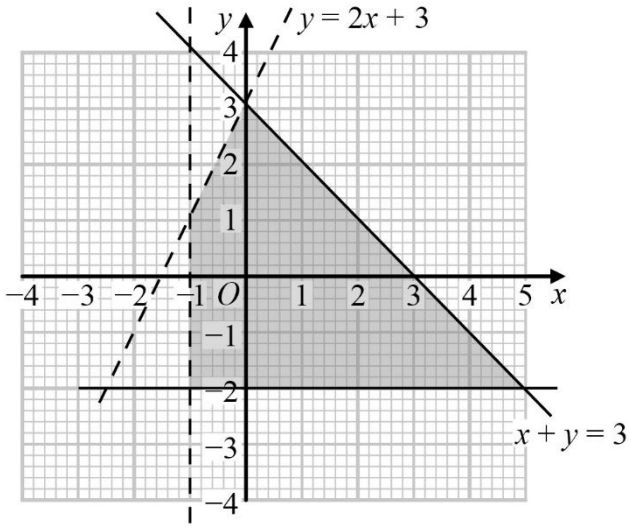
8th

c Use your diagram to solve the simultaneous equations.

(1 mark)

9th

7 Write down the inequalities that describe the shaded region shown in the diagram.



(4 marks)

10th

9 Expand and simplify $(x + 3)(2x – 1)(x + 4)$

(3 marks)

11 **a** Work out the coordinates of the turning point of the quadratic function

$$y = x^2 - 4x + 3$$

State whether the turning point is a maximum or minimum value of the function.

(3 marks)

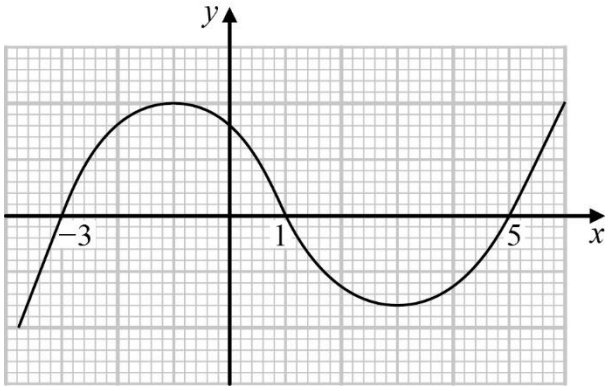
b Work out the coordinates of the turning point of the quadratic function

$$y = -x^2 - 8x + 3$$

State whether the turning point is a maximum or minimum value of the function.

(3 marks)

13 The diagram shows a sketch of a graph with equation $y = x^3 + ax^2 + bx + c$



Use the diagram and further working to find the values of a, b and c.

(3 marks)

Overall mark /