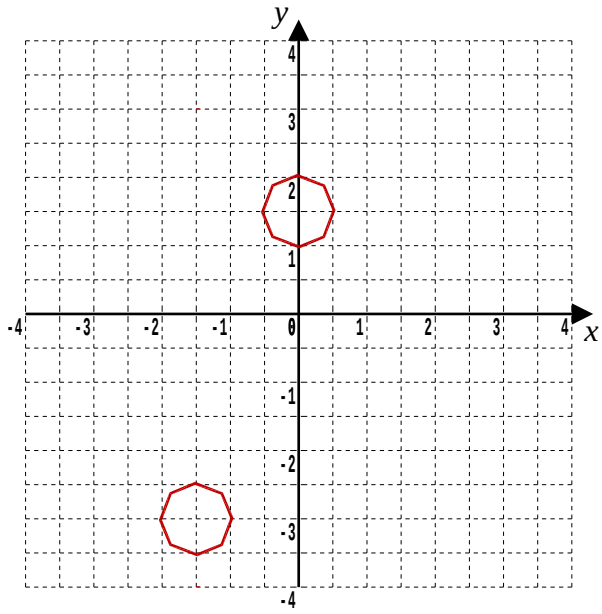
1.6 Homework

GCSE Mathematics
Graphworks

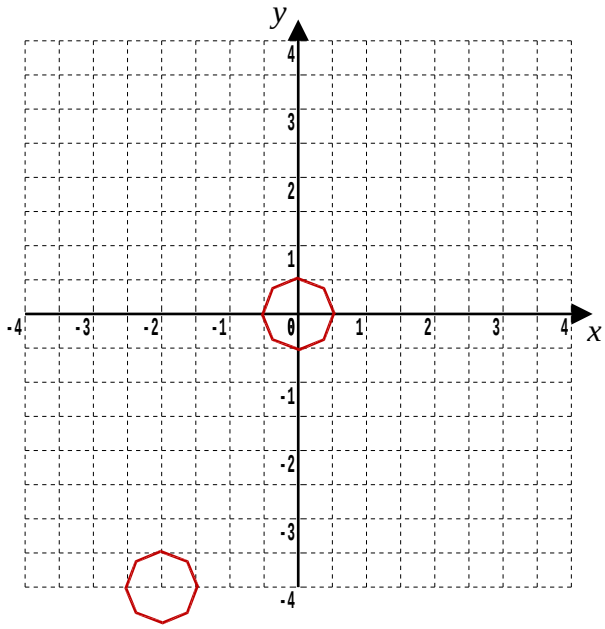
Marks Available : 50

Question 1

On each of the following graphs, work through four steps to get the equation of the straight line between the ring centres.

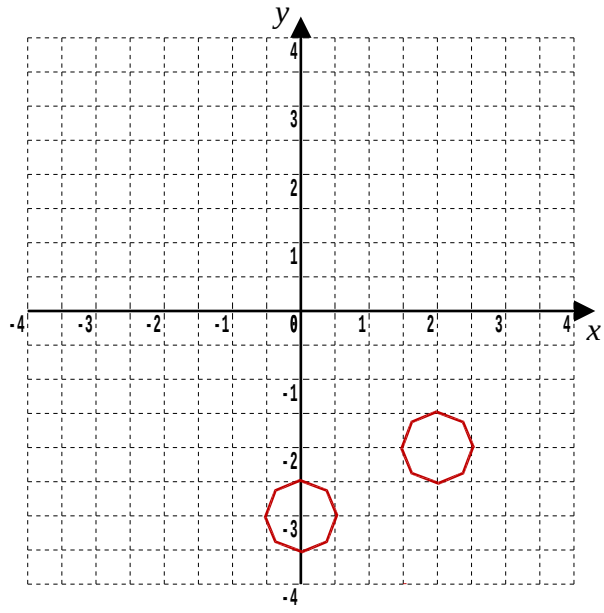


(i)

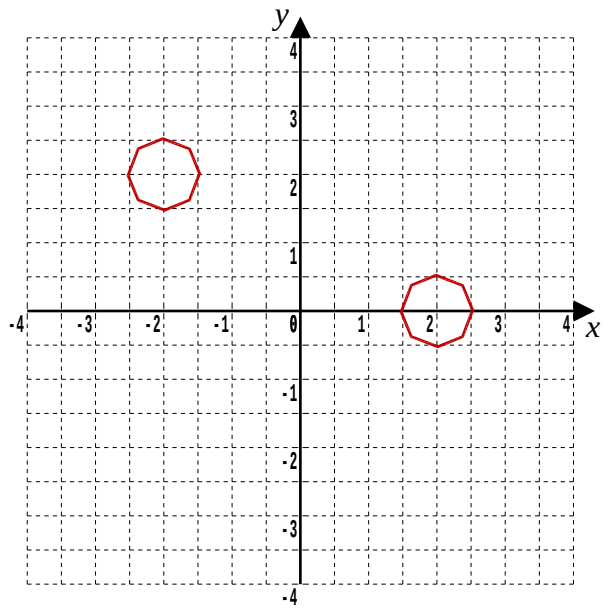


(ii)

[2, 2 marks]

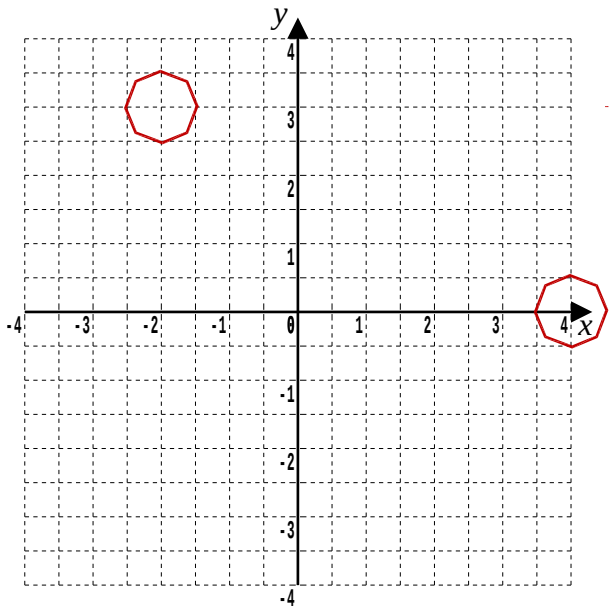


(iii)

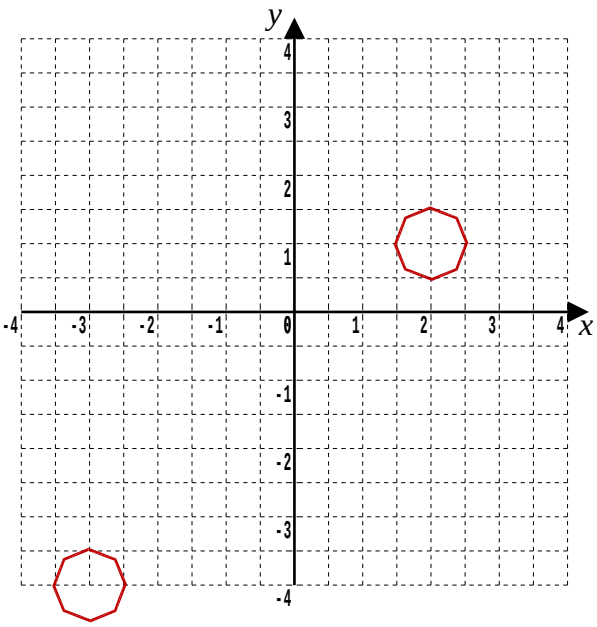


(iv)

[2, 2 marks]

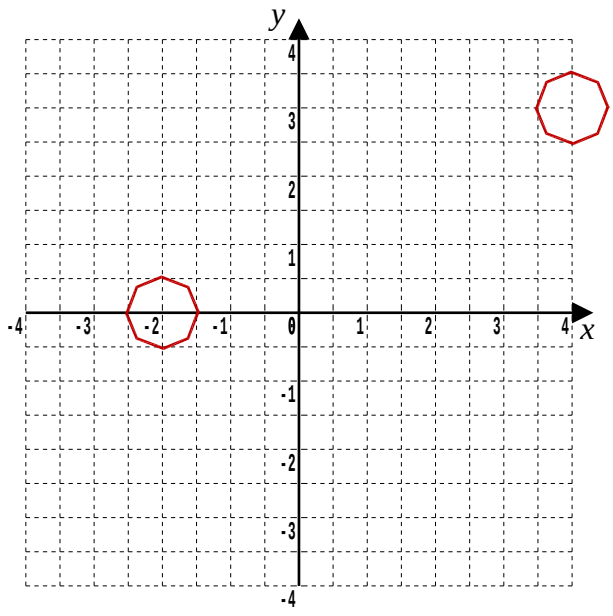


(v)

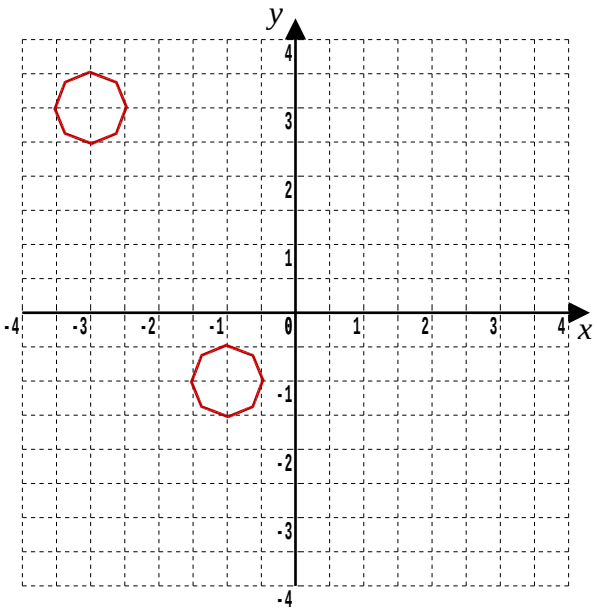


(vi)

[2, 2 marks]

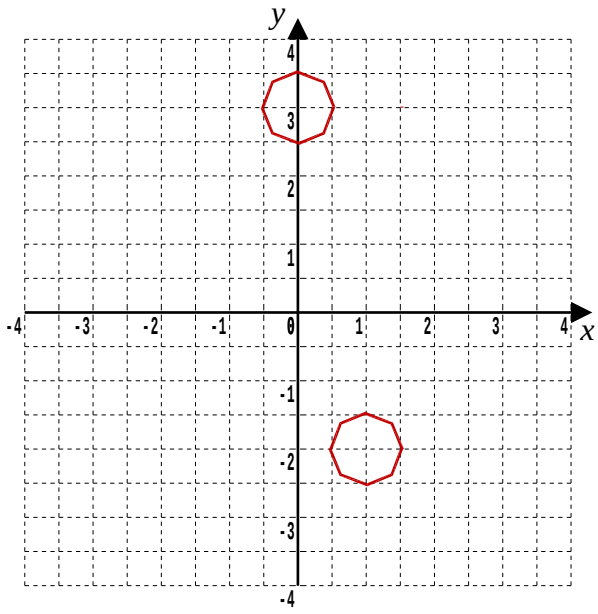


(vii)

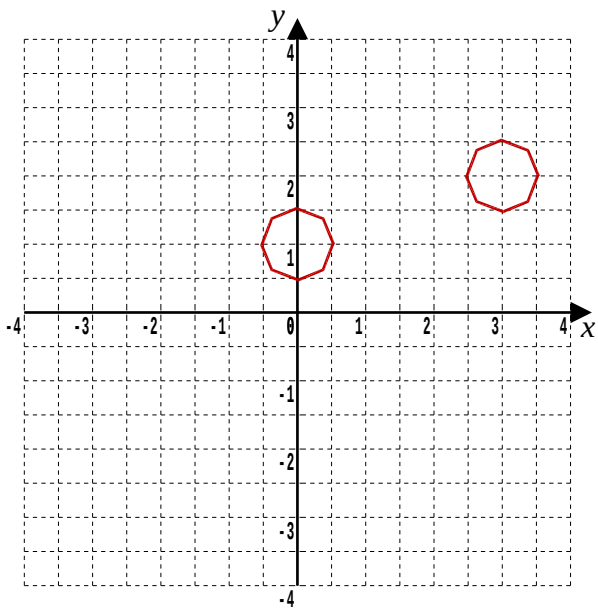


(viii)

[2, 2 marks]

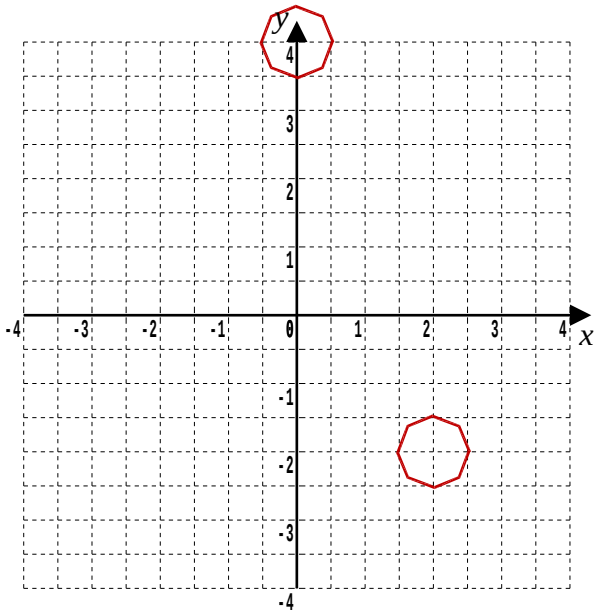


(ix)

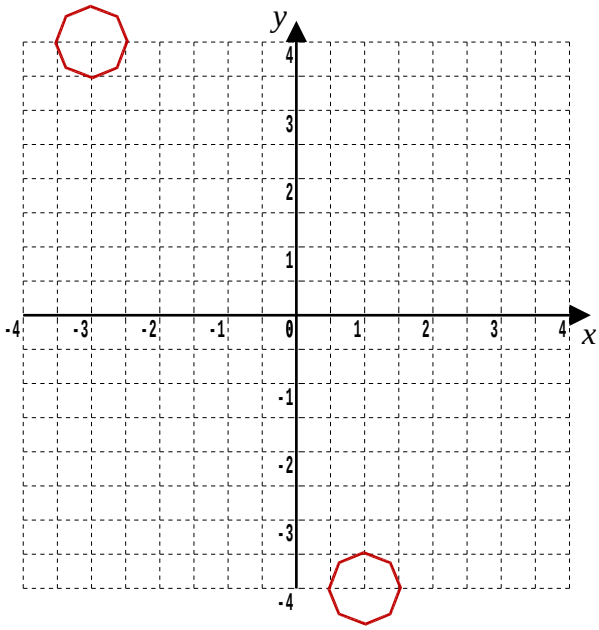


(x)

[2, 2 marks]

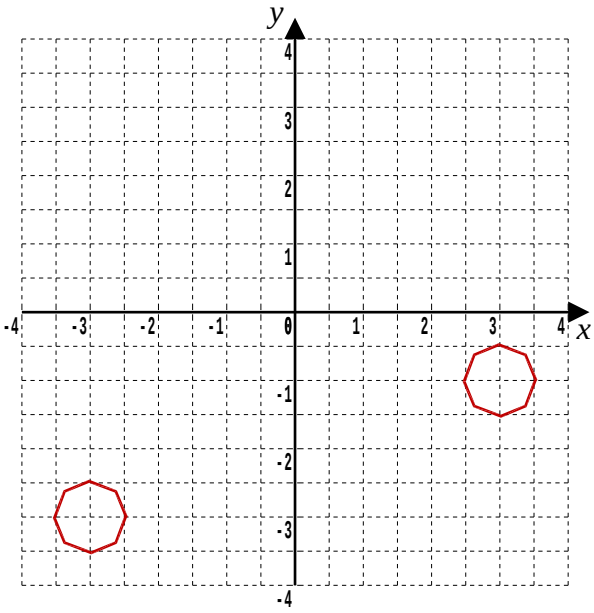


(xi)

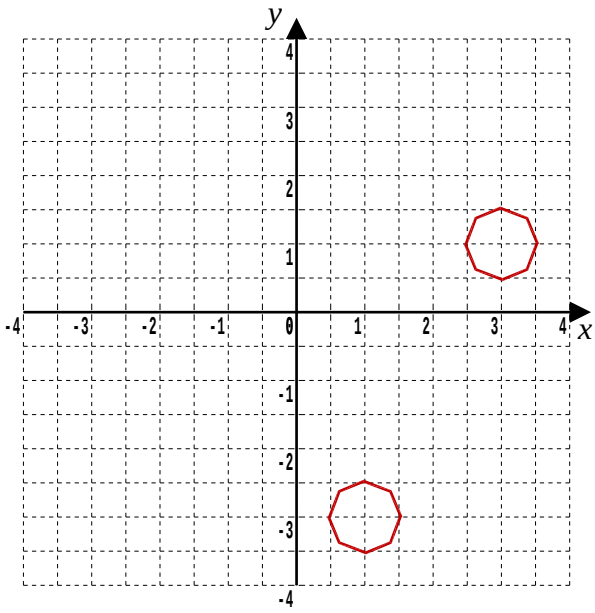


(xii)

[2, 2 marks]



(xiii)



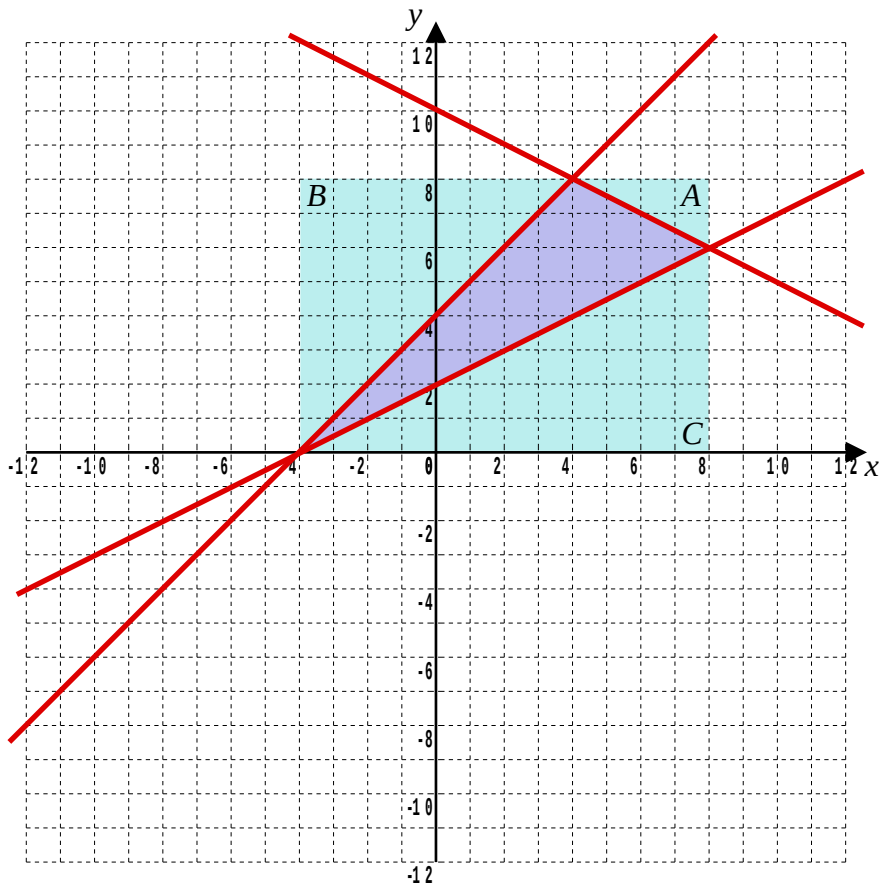
(xiv)

[2, 2 marks]

Question 2

This question is about the "throw a box" method of finding the area of a triangle.

(i) Next to each line, at a suitable place, clearly write the equations of the line.



[6 marks]

(ii) Calculate the area of triangle A.

[2 marks]

(iii) Calculate the area of triangle B.

[2 marks]

(iv) Calculate the area of triangle C.

[2 marks]

(v) Hence, or otherwise, determine the area of the triangle enclosed by the three lines.

[3 marks]

Question 3

Consider the graphs of the following six equations;

(a) $y = -17x + 72$ **(b)** $y = -35$ **(c)** $y = x^2 + 3x - 72$

(d) $y = -17x$ **(e)** $y = 17x + 0.5$ **(f)** $y = 72x - 14$

You should recognize that most of these are straight lines, and one is "something else".

(i) Which graph is not a straight line ?

[1 mark]

(ii) Which graph is simply a flat horizontal line ?

[1 mark]

(iii) Which graph passes through the origin ?
i.e. the point (0, 0)

[1 mark]

(iv) Which graph crosses the x-axis in two separate places ?

[1 mark]

(v) Which straight line graph is the steepest ?

[1 mark]

(vi) Which two graphs are parallel ?

[1 mark]

(vii) Which graph pass through the point (1, – 17) ?

[1 mark]