Test - Transformations

Year: Year 11 · Duration: 45 minutes · /20

Name:	Date:	**Mark:** /20

Question	1	2	3	4	5	Total
marks	4	4	4	4	4	**20**
Mark						

Show your working.

Question 1 (4 marks)

Question 1 – Reflection

A triangle has vertices $(2, 1)$, $(5, 1)$ and $(2, 4)$.

a. Reflect it in the y-axis and write the new coordinates. (2 marks)
b. Reflect the original in the line $y = x$. (2 marks)

Question 2 (4 marks)

Question 2 – Rotation

Point P is $(5, 3)$ and the centre C is $(1, 1)$.

a. Rotate P by 90° clockwise about C. (3 marks)
b. Show that the image is the same distance from C. (1 mark)

Question 3 (4 marks)

Question 3 – Enlargement

Triangle ABC has $A(2, 2)$, $B(4, 2)$ and $C(2, 5)$. It is enlarged by scale factor 2 with centre $(1, 1)$.

a. Find the coordinates of the image. (3 marks)
b. The area of ABC is 3. Find the area of the image. (1 mark)

Question 4 (4 marks)

Question 4 – Describe the transformation

Triangle A has vertices $(1, 1)$, $(3, 1)$, $(1, 4)$ and triangle B has vertices $(-1, -1)$, $(-3, -1)$, $(-1, -4)$.

a. Describe fully the single transformation that maps A to B. (3 marks)

b. Describe a different transformation that maps A to B. (1 mark)

Question 5 (4 marks)

Question 5 – Negative scale factor (Higher)

Point P is $(3, 1)$. It is enlarged with scale factor -3, centre the origin.

a. Find the image of P. (2 marks)
b. A shape of area 10 cm² is enlarged by scale factor -3. Find the area of the image. (2 marks)