4.17 Transformations: Translation and Enlargement: 10-minute Pack

Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Enlarge point P(4, 6) by scale factor 4 about the point (2, 1). Work out the image P'.

(2)

2 A triangle with vertices (2, 2), (4, 2) and (2, 5) is first translated by (3, -1) then enlarged by scale factor 2 about the origin. Find the coordinates after both transformations.

(3)

3 Sam says: "Enlarging a shape by scale factor 1 about any point always gives the same shape in the same place." Is Sam correct? Give a reason.

(3)

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Mark scheme · 4.17 Transformations: Translation and Enlargement: 10-minute Pack

Question 1

Subtracts centre (2,1): vector (2,5), multiplies by 4 to get (8,20) then adds centre	**M1**
P'(10,21) cao	**A1**

Answer: **P'(10, 21)**

Question 2

Applies translation to each point or shows one correct translated point	**M1**
Then multiplies translated coordinates by 2 about origin correctly	**M1**
Final coordinates correct: (10,2), (14,2), (10,8) cao	**A1**

Answer: **(10, 2), (14, 2), (10, 8)**

Question 3

States whether correct or not: correct that shape is unchanged in size	**M1**
Explains that scale factor 1 means distances from centre are multiplied by 1 so points do not move	**M1**
Concludes that the shape remains in the same place and size; wording equivalent to this earns the mark	**A1**

Answer: **Yes. Scale factor 1 multiplies all distances from the centre by 1 so every point stays where it is; the shape is unchanged.**

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