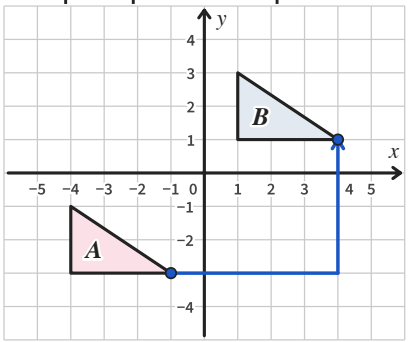
Mixed transformations: describing fully

ANSWERS

1

Describe fully the single transformation that maps shape A onto shape B.



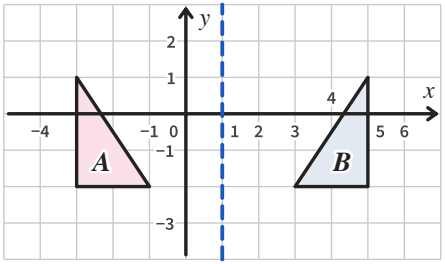
it is a: translation

across, then up or down: 5 right, 4 up

Translation by $\begin{pmatrix} 5 \\ 4 \end{pmatrix}$

2

Describe fully the single transformation that maps shape A onto shape B.



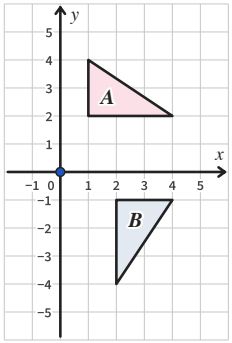
it is a: reflection

halfway between −1 and 3: 1

Reflection in the line x = 1

3

Describe fully the single transformation that maps shape A onto shape B.



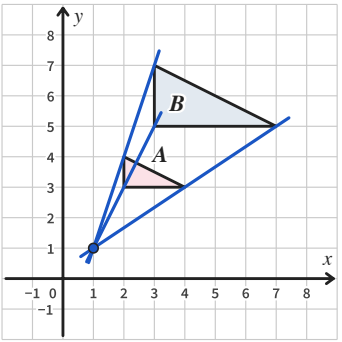
it is a: rotation

angle and direction: 90° clockwise

centre: (0, 0)

4

Describe fully the single transformation that maps shape A onto shape B.



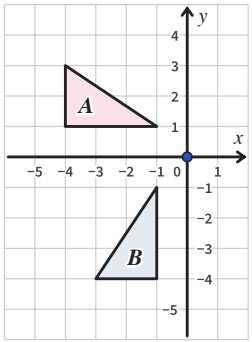
it is an: enlargement

scale factor: 2

centre: (1, 1)

5

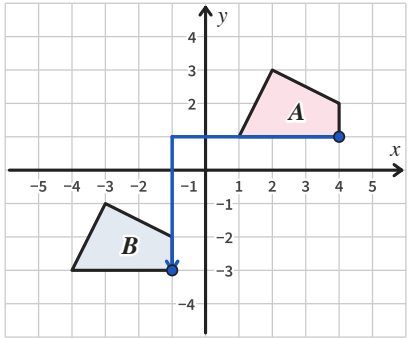
Describe fully the single transformation that maps shape A onto shape B.



Rotation, 90° anticlockwise, about (0, 0)

6

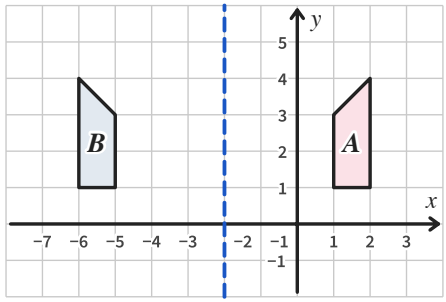
Describe fully the single transformation that maps shape A onto shape B.



Translation by $\begin{pmatrix} -5 \\ -4 \end{pmatrix}$

7

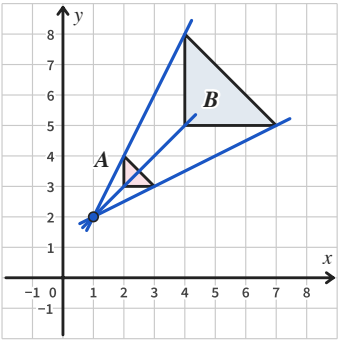
Describe fully the single transformation that maps shape A onto shape B.



Reflection in the line x = −2

8

Ella wrote "Enlargement, scale factor 3". What is missing? Describe it fully.



missing: the centre

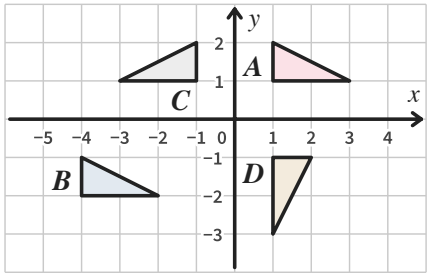
Enlargement, scale factor 3, centre (1, 2)

Mixed transformations: describing fully *further practice*

ANSWERS

9

Shape A is mapped onto B, C and D. Which is a translation, which a reflection and which a rotation?



B: same way up; C: flipped

D: turned

Answer *B, C, D in that order*

10

Shape A is reflected to give shape B. The corner (−5, 2) of A goes to the corner (3, 2) of B. Write down the equation of the mirror line.

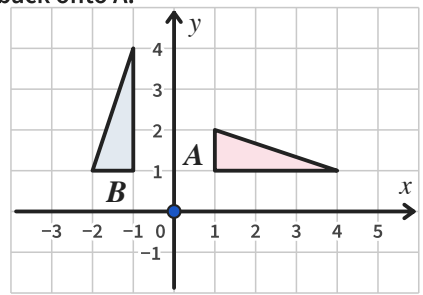
halfway between −5 and 3 is −1

same y, so the line is vertical

Answer *x = −1*

11

A is rotated onto B. Describe fully the single transformation that maps B back onto A.



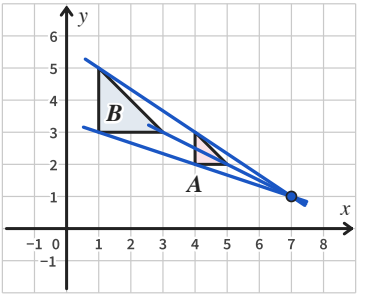
Rotation, 90° clockwise,

(A to B was anticlockwise)

Answer *about (0, 0)*

12

Describe fully the single transformation that maps A onto B.



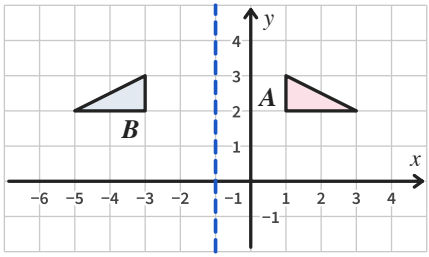
Enlargement,

scale factor 2 (2 ÷ 1 = 2),

Answer *centre (7, 1)*

13

Lola says shape B is a rotation of shape A. Is Lola right? Explain.



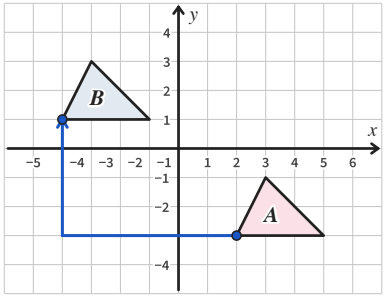
B is flipped over, not turned

it is a reflection in the line x = −1

Answer *No*

14

A game sprite moves from A to B. Describe fully the transformation.



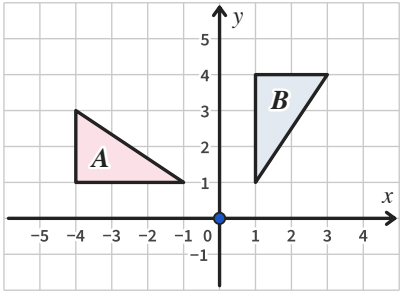
corner (2, −3) to (−4, 1)

6 left, 4 up

Answer *Translation by* $\begin{pmatrix} -6 \\ 4 \end{pmatrix}$

15

Kai wrote "Rotation, 90°, about (0, 0)". What is missing? Describe it fully.



missing: the direction

Rotation, 90° clockwise,

Answer *about (0, 0)*

16

Shape A is enlarged to give shape B. A side of A is 3 cm long, and the matching side of B is 12 cm long. Raj says the scale factor is 9. Is Raj right? Explain.

he took away: 12 − 3 = 9

divide: 12 ÷ 3 = 4

Answer *No, it is 4*