

Rotations

Video 275 on www.corbettmaths.com

Examples

Workout



Click here

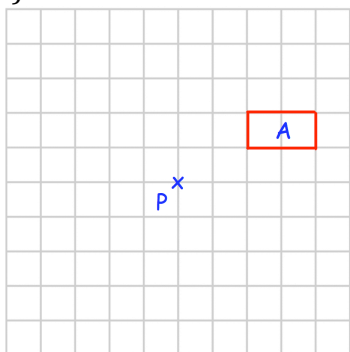


Scan here

*There are templates for questions 1, 2 and 3 at the end of this exercise

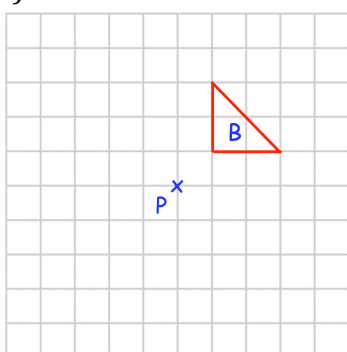
Question 1: Rotate each of the shapes below as instructed, using P as the centre of rotation.

(a)



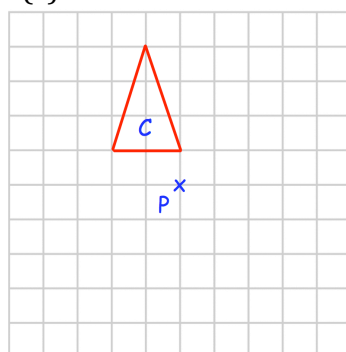
rotate 90° clockwise about P

(b)



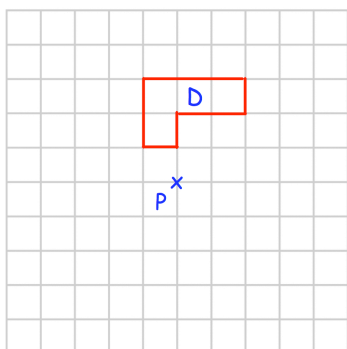
rotate 90° anticlockwise about P

(c)



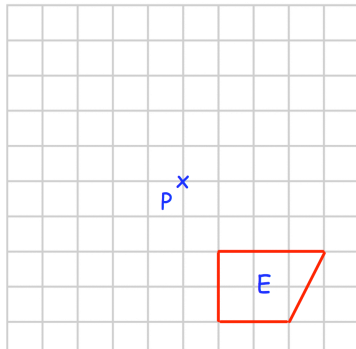
rotate 90° clockwise about P

(d)



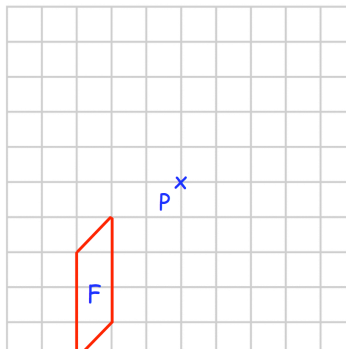
rotate 180° about P

(e)



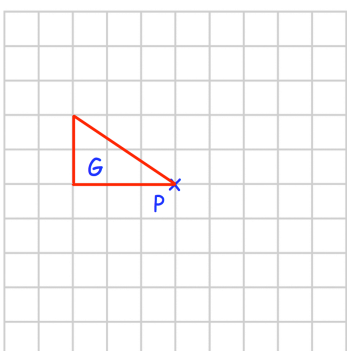
rotate 90° anticlockwise about P

(f)



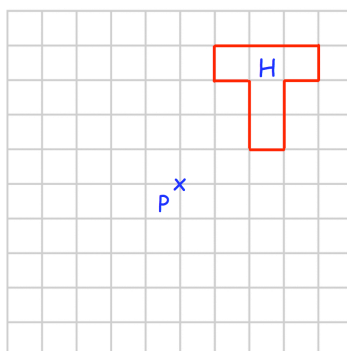
rotate 180° about P

(g)



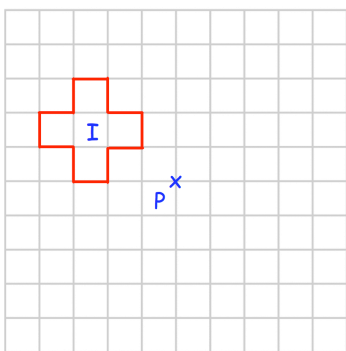
rotate 90° clockwise about P

(h)



rotate 270° clockwise about P

(i)



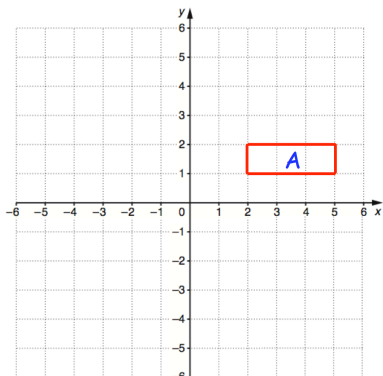
rotate 270° anticlockwise about P

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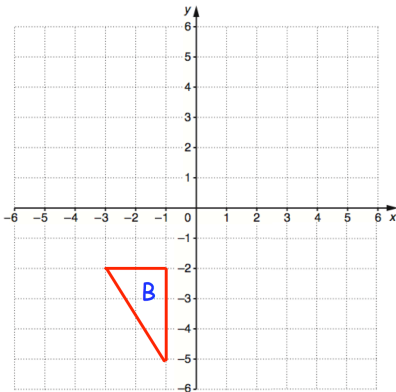
Question 2: Rotate each of the shapes below as instructed, using the origin, (0,0), as the centre of rotation.

(a)



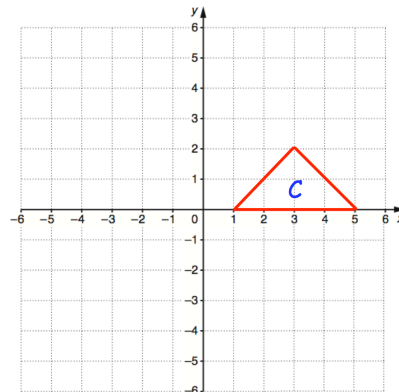
rotate 180° about (0, 0)

(b)



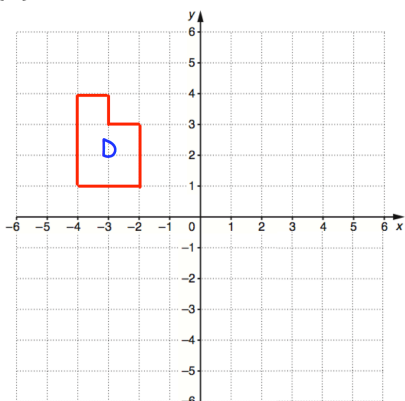
rotate 90° clockwise about (0, 0)

(c)



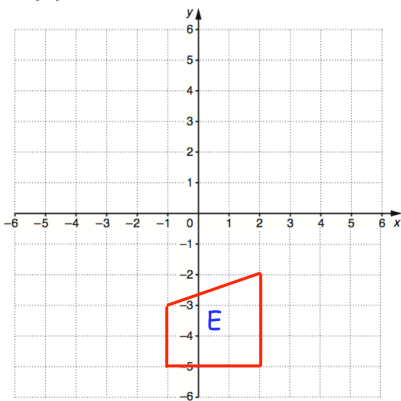
rotate 90° anticlockwise about (0, 0)

(d)



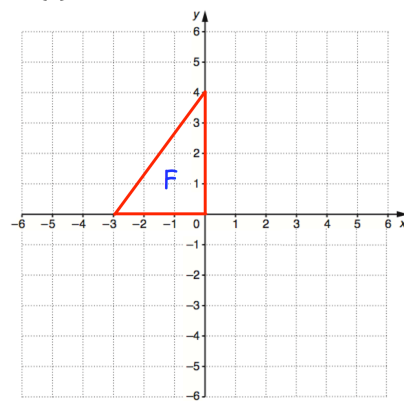
rotate 90° clockwise about (0, 0)

(e)



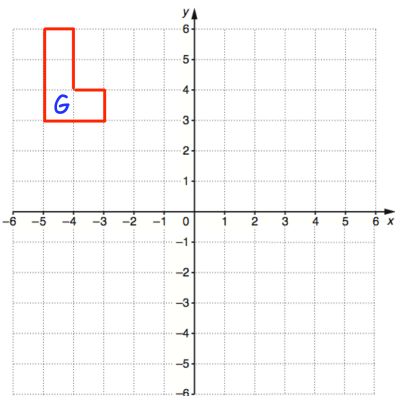
rotate 90° anticlockwise about (0, 0)

(f)



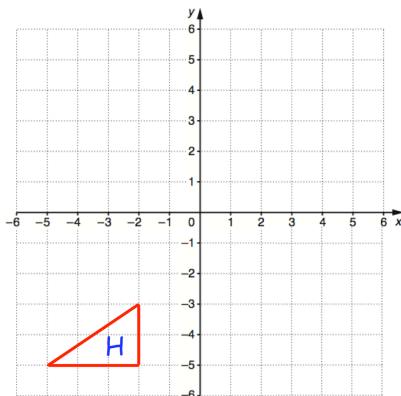
rotate 180° about (0, 0)

(g)



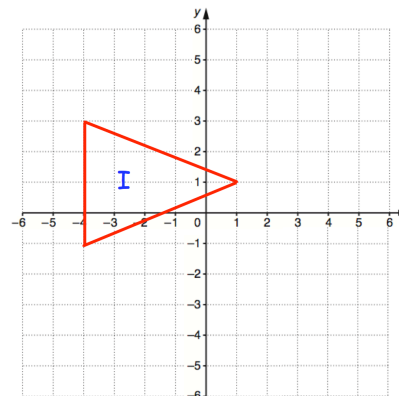
rotate 90° anticlockwise about (0, 0)

(h)



rotate 180° about (0, 0)

(i)



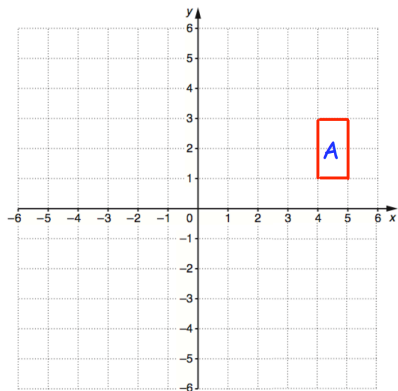
rotate 90° clockwise about (0, 0)

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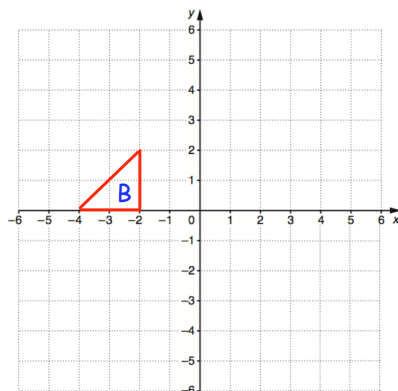
Question 3: Rotate each of the shapes below as instructed.

(a)



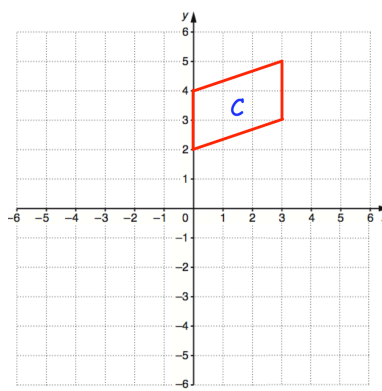
rotate 90° anticlockwise about $(0, 1)$

(b)



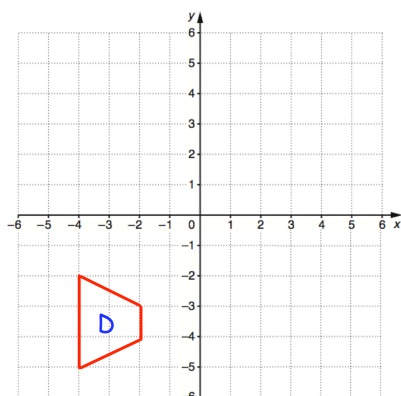
rotate 90° clockwise about $(-1, -2)$

(c)



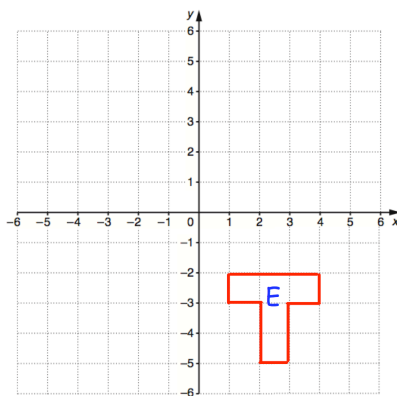
rotate 180° about $(1, 1)$

(d)



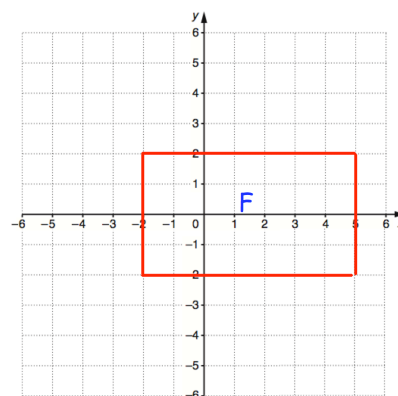
rotate 90° anticlockwise about $(-4, 0)$

(e)



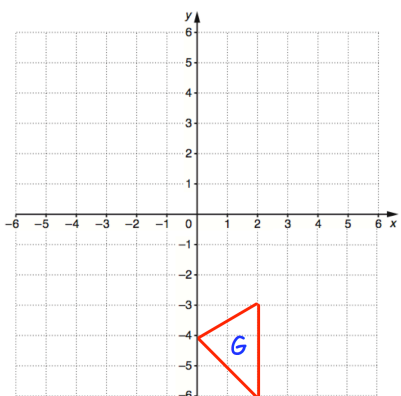
rotate 180° about $(-1, 0)$

(f)



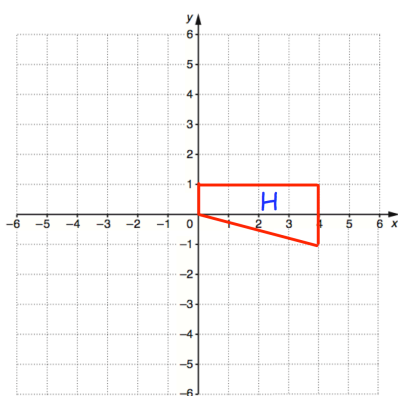
rotate 90° clockwise about $(-1, 2)$

(g)



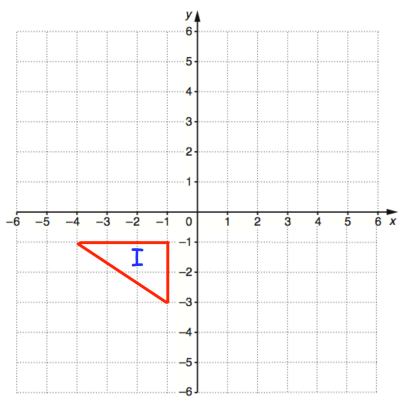
rotate 90° clockwise about $(5, 0)$

(h)



rotate 90° anticlockwise about $(3, 0)$

(i)



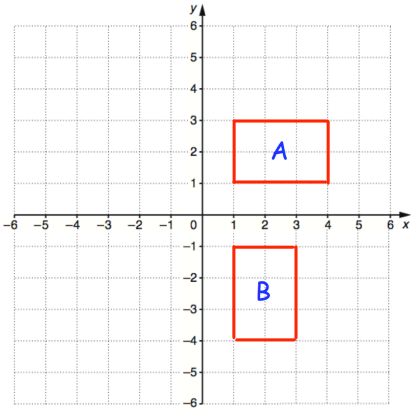
rotate 180° about $(1, 1)$

Rotations

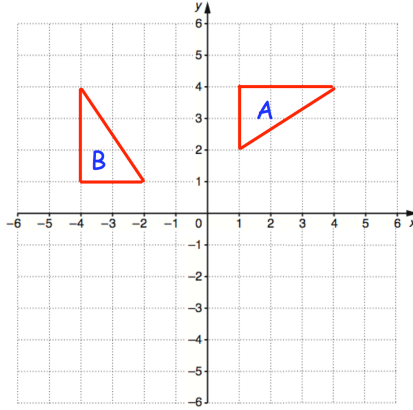
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Question 4: Describe fully the single transformation that takes shape A to shape B.

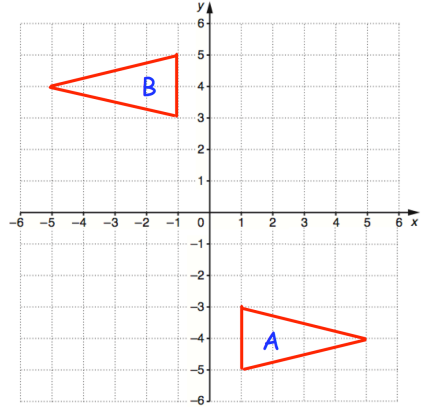
(a)



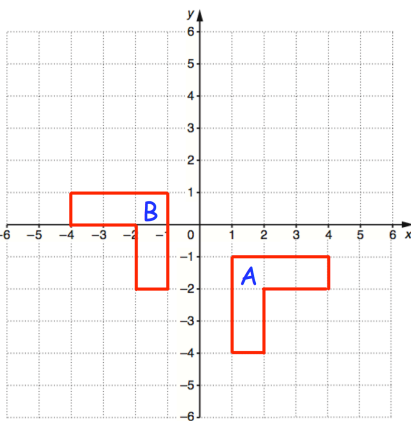
(b)



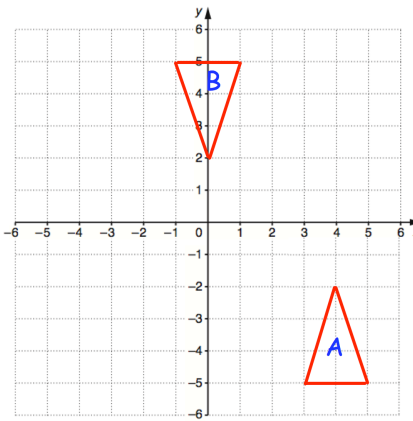
(c)



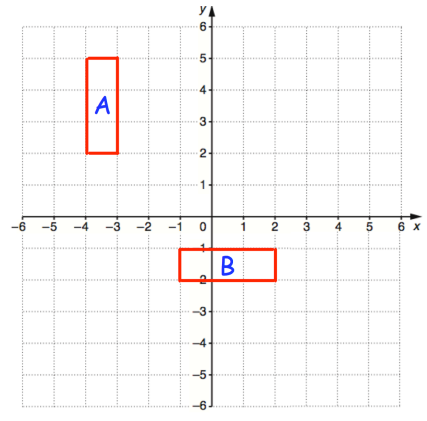
(d)



(e)



(f)



Answers



Click here



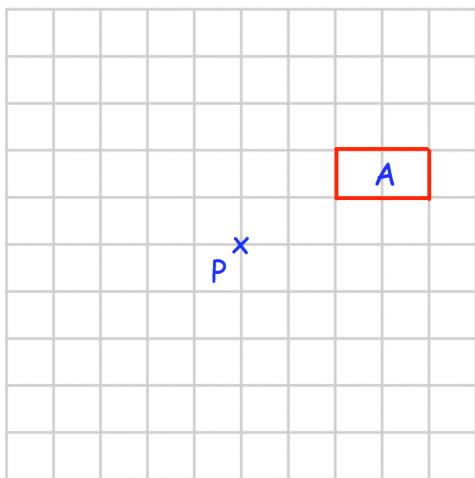
Scan here

Rotations

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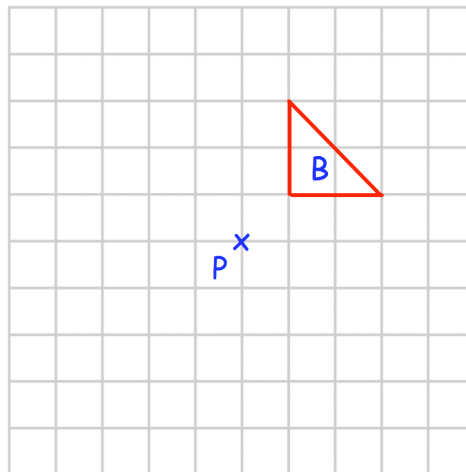
Templates

Q1(a)



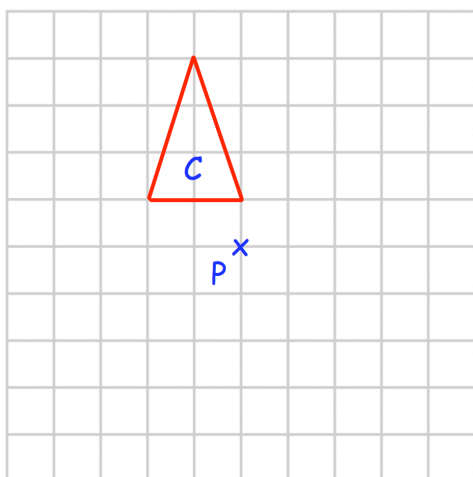
rotate 90° clockwise about P

Q1 (b)



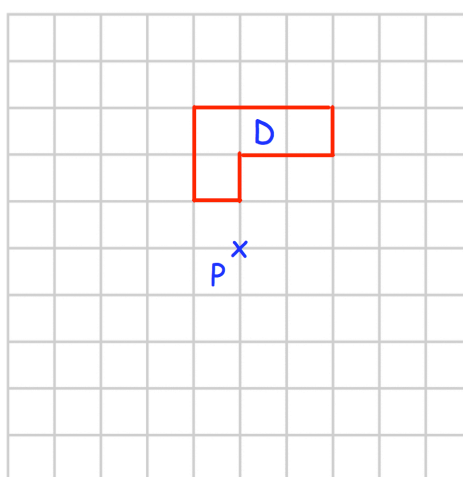
rotate 90° anticlockwise about P

Q1(c)



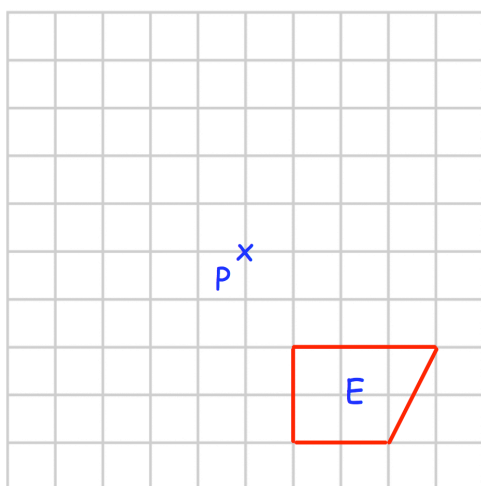
rotate 90° clockwise about P

Q1(d)



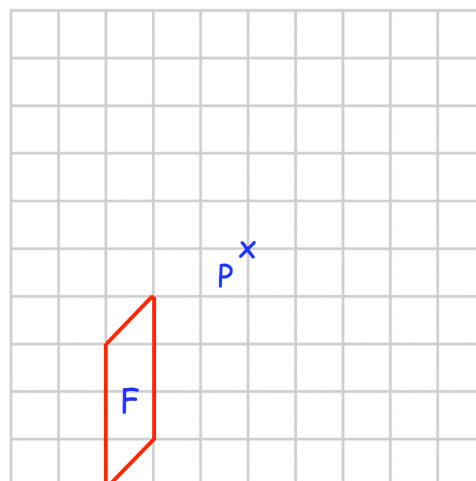
rotate 180° about P

Q1(e)



rotate 90° anticlockwise about P

Q1 (f)

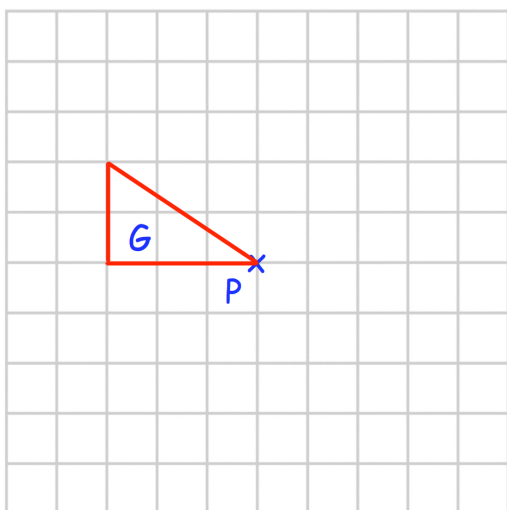


rotate 180° about P

Rotations

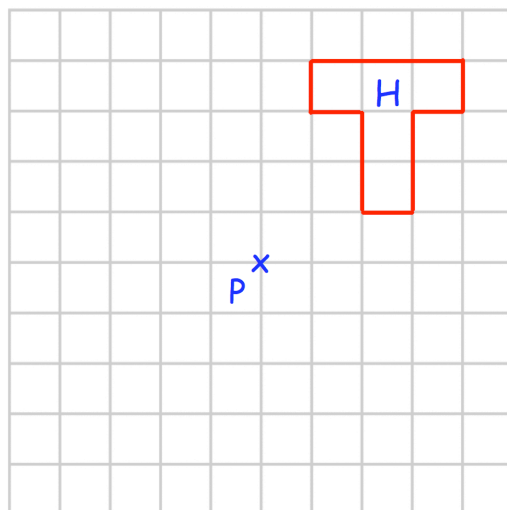
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Q1(g)



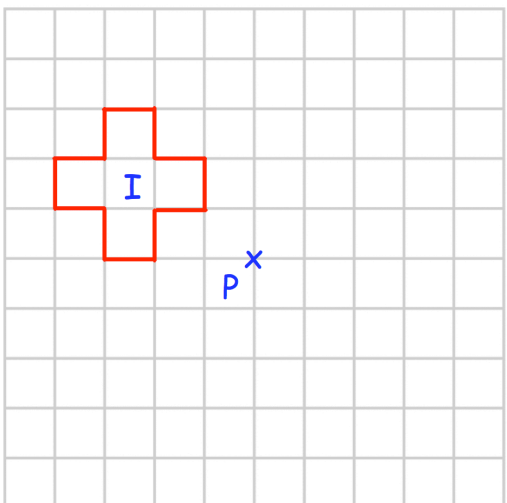
rotate 90° clockwise about P

Q1(h)



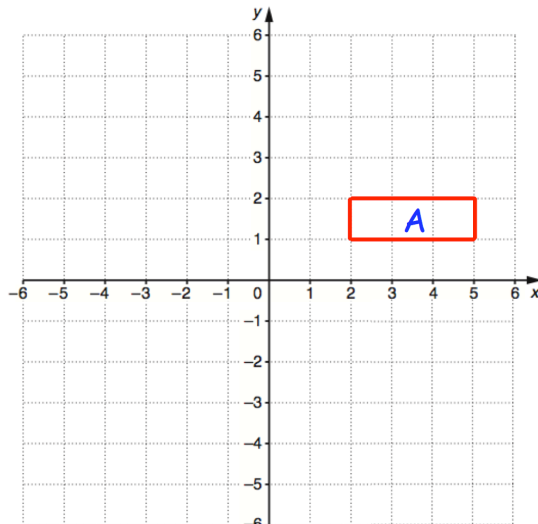
rotate 270° clockwise about P

Q1(i)



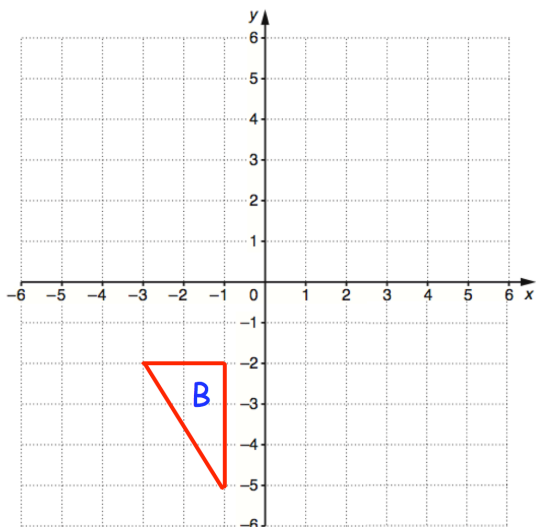
rotate 270° anticlockwise about P

Q2(a)



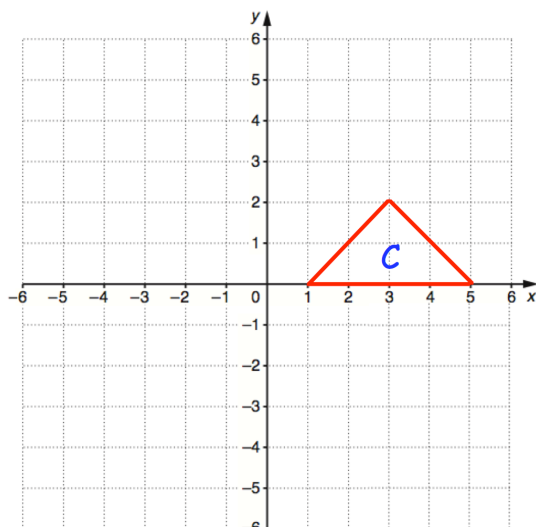
rotate 180° about (0, 0)

Q2(b)



rotate 90° clockwise about (0, 0)

Q2(c)

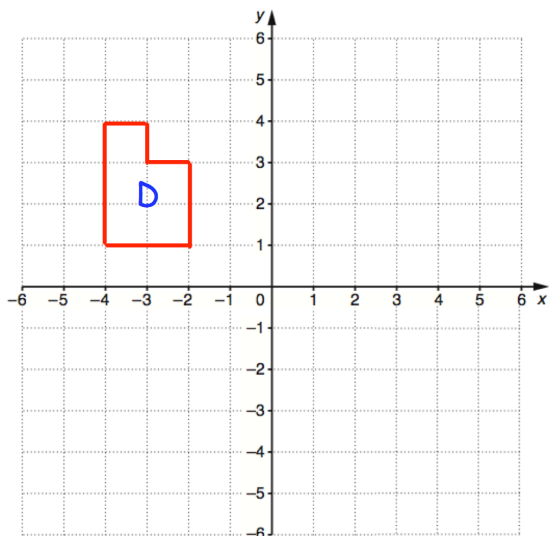


rotate 90° anticlockwise about (0, 0)

Rotations

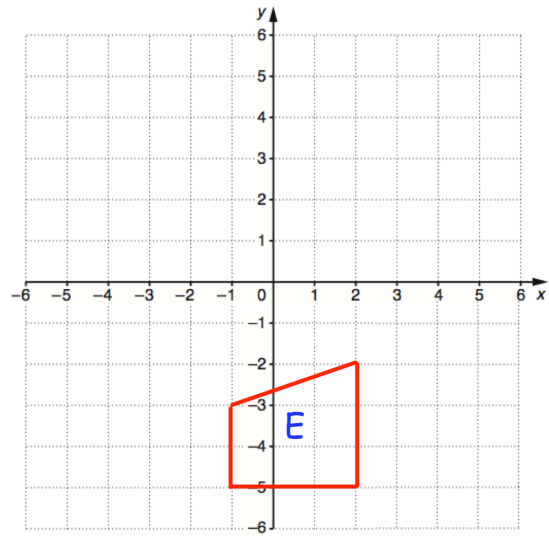
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Q2(d)



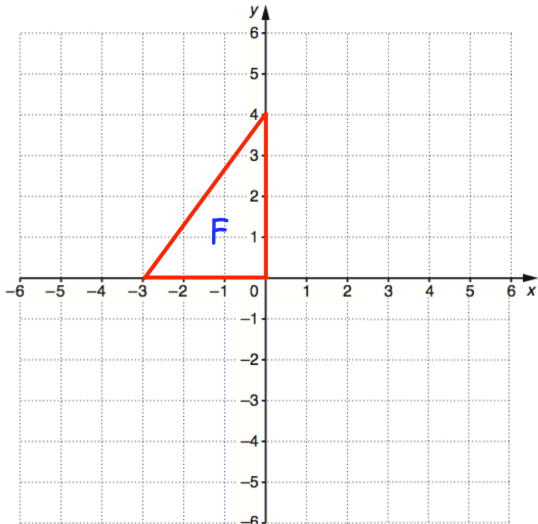
rotate 90° clockwise about $(0, 0)$

Q2(e)



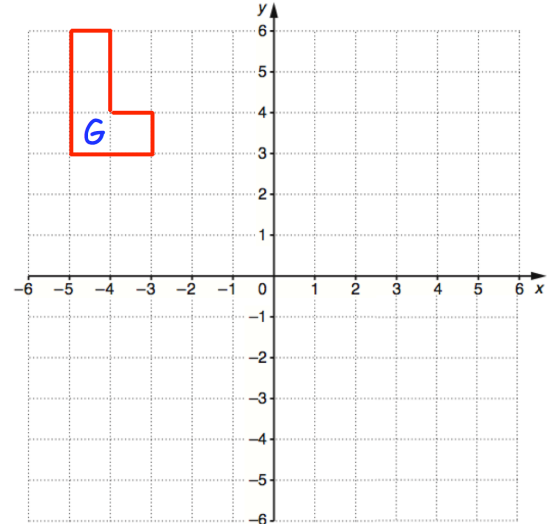
rotate 90° anticlockwise about $(0, 0)$

Q2(f)



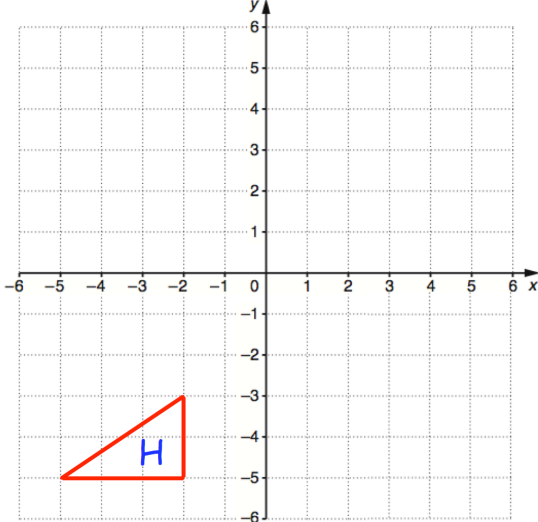
rotate 180° about $(0, 0)$

Q2(g)



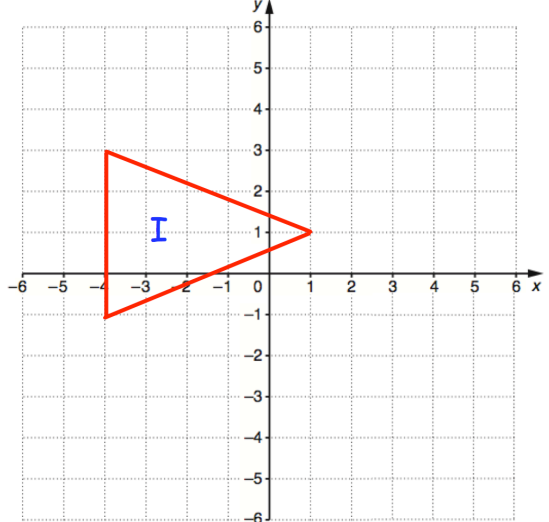
rotate 90° anticlockwise about $(0, 0)$

Q2(h)



rotate 180° about $(0, 0)$

Q2(i)

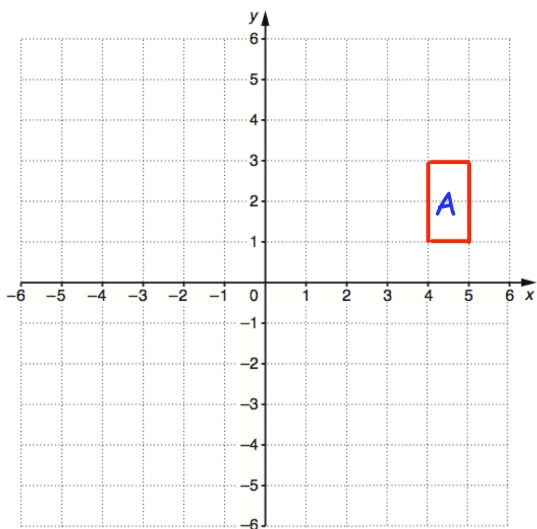


rotate 90° clockwise about $(0, 0)$

Rotations

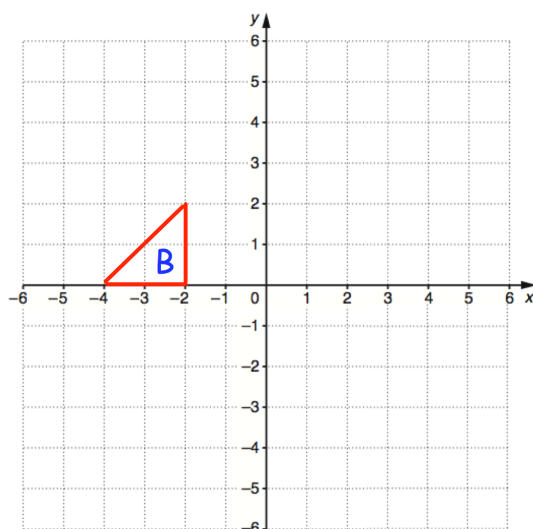
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Q3(a)



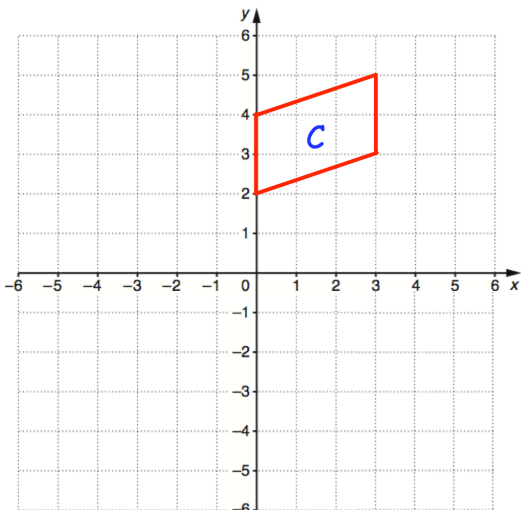
rotate 90° anticlockwise about $(0, 1)$

Q3(b)



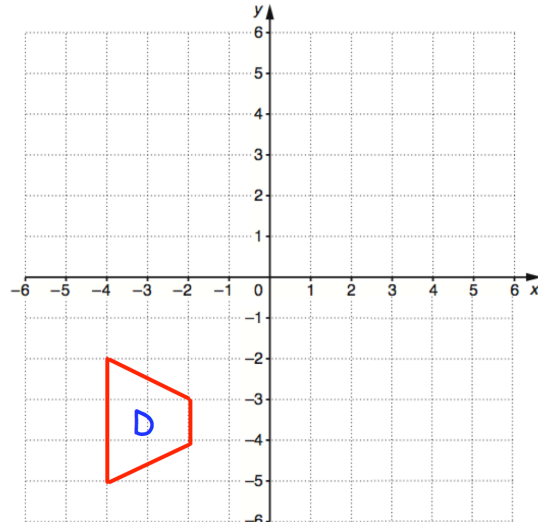
rotate 90° clockwise about $(-1, -2)$

Q3(c)



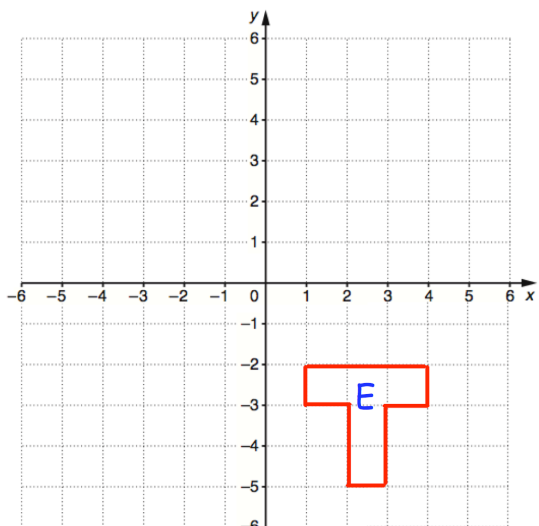
rotate 180° about $(1, 1)$

Q3(d)



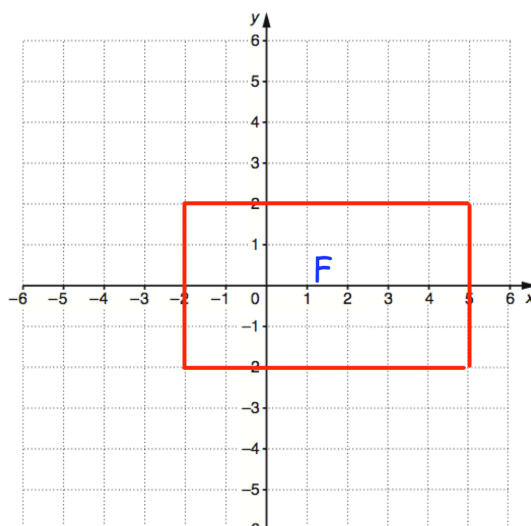
rotate 90° anticlockwise about $(-4, 0)$

Q3(e)



rotate 180° about $(-1, 0)$

Q3(f)

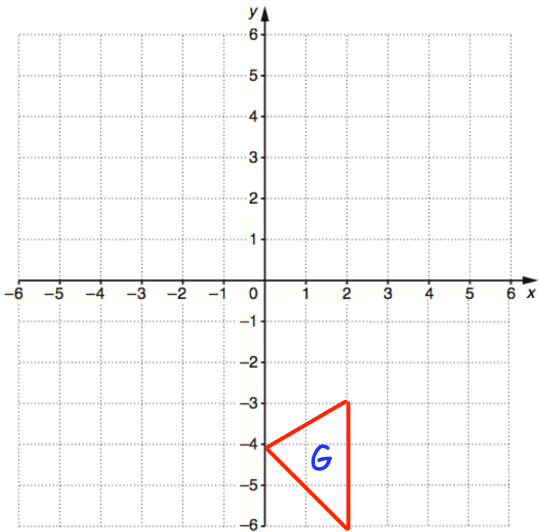


rotate 90° clockwise about $(-1, 2)$

Rotations

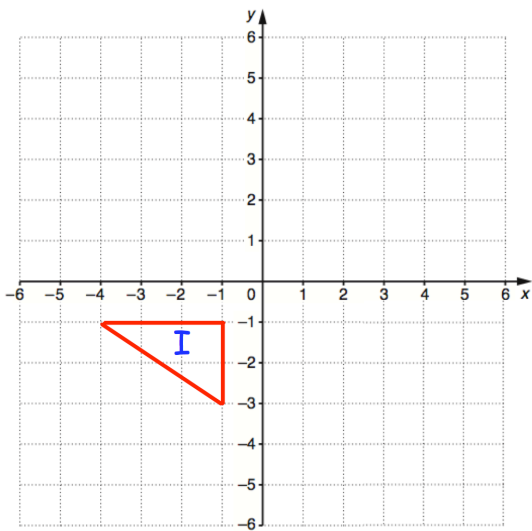
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Q3(g)



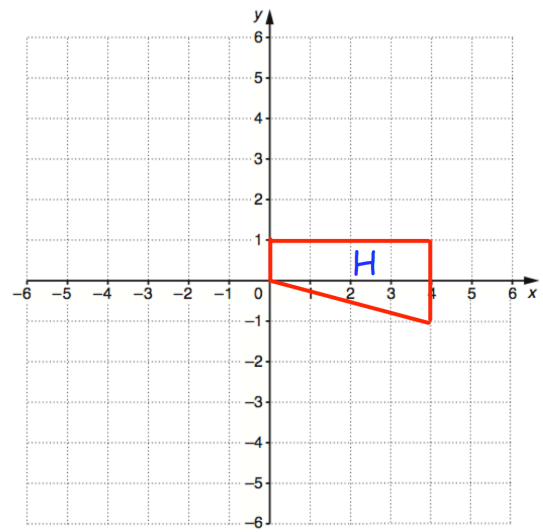
rotate 90° clockwise about $(5, 0)$

Q3(i)



rotate 180° about $(1, 1)$

Q3(h)



rotate 90° anticlockwise about $(3, 0)$