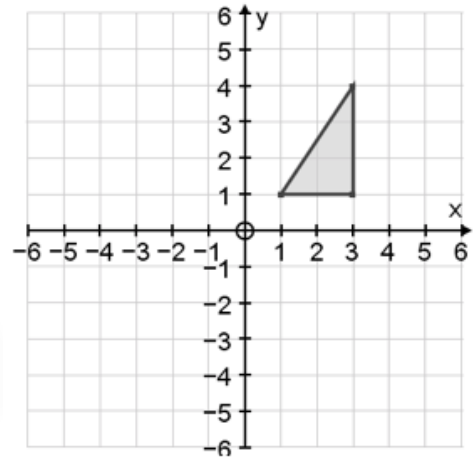


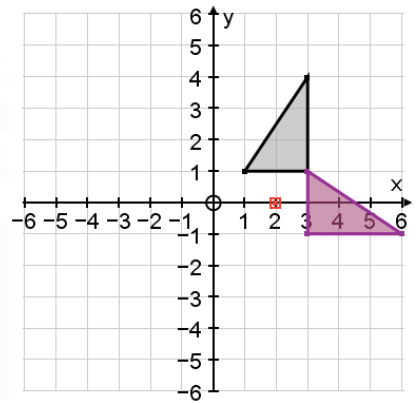
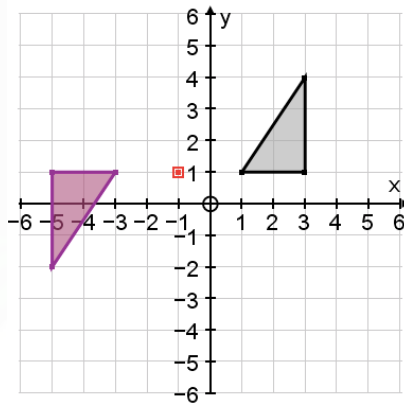
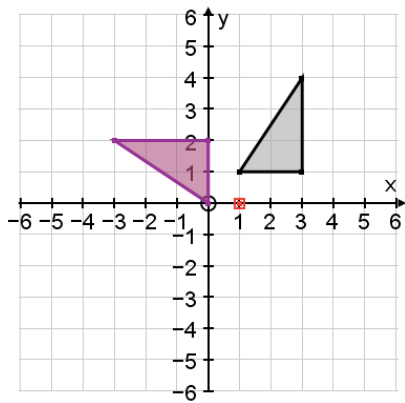
Rotations

E.g. 1 Rotate this shape:

- (a) 90° anti-clockwise about $(1, 0)$
- (b) 180° about $(-1, 1)$
- (c) 90° clockwise about $(2, 0)$

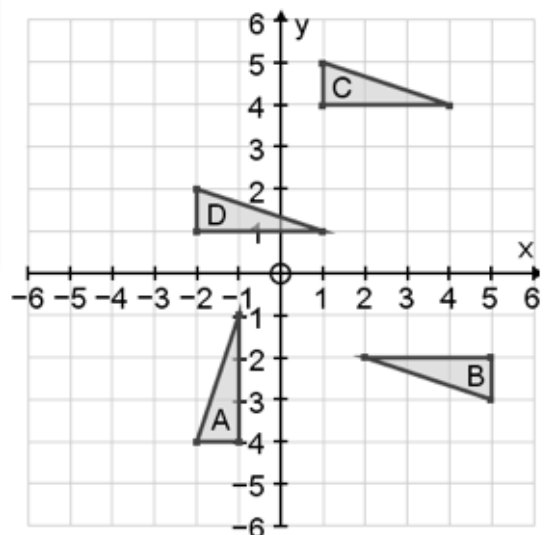


Working: The *image* (i.e. the answer) is in *purple* and the centre of rotation is *red*.



E.g. 2 Describe the transformation that takes:

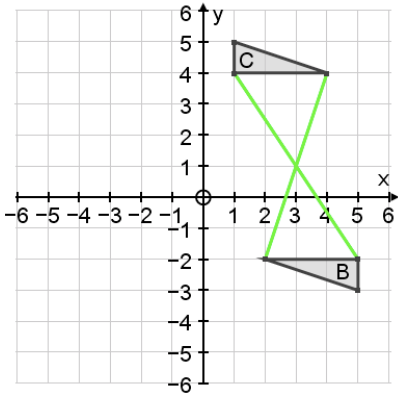
- (a) triangle *B* to triangle *C*
- (b) triangle *D* to triangle *B*
- (c) triangle *A* to triangle *B*



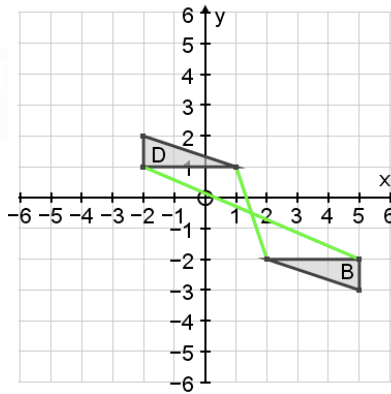
- Working:**
- (a) Rotation, 180° about $(3, 1)$
 - (b) Rotation, 180° about $(1.5, -0.5)$
 - (c) Rotation, 90° anti-clockwise about $(1, 0)$

If you weren't able to find the centres of enlargement using tracing paper here are the diagrams using the longer method.

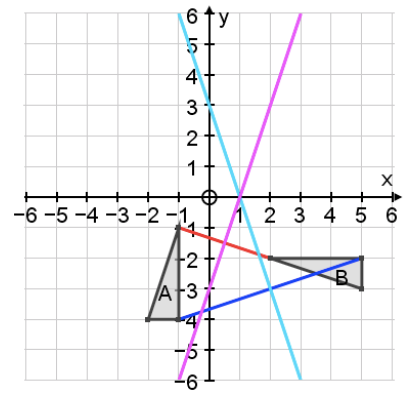
(a) 180° so intersection of lines between corresponding points.



(b) 180° so intersection of lines between corresponding points.



(c) Not 180° so may need to draw perpendicular bisectors.



Video: [Rotations](#)
Video (w/o tracing paper 3:30): [Rotations without tracing paper](#)
Video (start from 2:43): [Finding the centre of rotation](#)
Video: [How to construct a perpendicular bisector](#)

[Solutions to Starter and E.g.s](#)

Exercise

9-1 class textbook:

p281 M9.5 Qu 1-6

A*-G class textbook:

p243 M9.5 Qu 1-8

9-1 homework book:

p97 M9.5 Qu 1-7

A*-G homework book:

p69 M9.5 Qu 1-7

[Homework book answers \(only available during a lockdown\)](#)