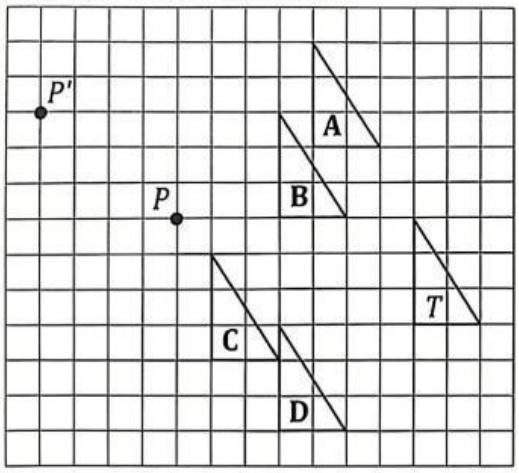
Bab 11 Transformasi Isometri
Isometric Transformations

Bahagian A

1 Rajah berikut menunjukkan sebuah segi tiga T dan P' ialah imej bagi P di bawah suatu translasi.
The following diagram shows a triangle T and P' is an image of P under a translation.

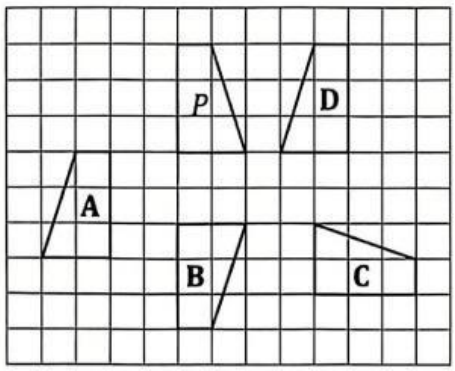


Antara segi tiga **A**, **B**, **C** dan **D**, yang manakah ialah imej bagi segi tiga T di bawah translasi yang sama?
*Which of the following triangles **A**, **B**, **C** and **D**, is the image of triangle T under the same translation?*

2 $P'(-2, 12)$ ialah imej bagi $P(2, 7)$ di bawah suatu translasi. Cari koordinat imej Q' bagi $Q(-3, 1)$ di bawah translasi yang sama.
P'(–2, 12) is the image of P(2, 7) under a translation. Find the coordinates of the image Q' of Q(–3, 1) under the same translation.

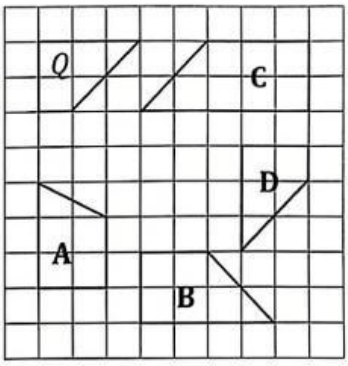
A (–1, 6) **C** (–7, 6)
B (–5, 8) **D** (6, 7)

3 Rajah berikut menunjukkan lima buah trapezium.
The following diagram shows five trapeziums.



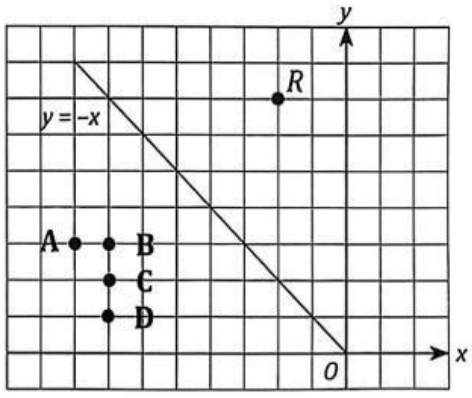
Antara trapezium **A**, **B**, **C** dan **D**, yang manakah **bukan** imej bagi P di bawah suatu pantulan?
*Which of the following trapeziums **A**, **B**, **C** and **D**, is **not** an image of P under a reflection?*

4 Rajah berikut menunjukkan lima buah trapezium.
The following diagram shows five trapeziums.



Antara trapezium **A**, **B**, **C** dan **D**, yang manakah adalah kongruen kepada trapezium Q?
*Which of the following trapeziums **A**, **B**, **C** and **D**, is congruent to trapezium Q?*

5 Rajah berikut menunjukkan garis lurus $y = -x$ dilukis pada satah Cartes.
The following diagram shows straight line $y = -x$ drawn on a Cartesian plane.



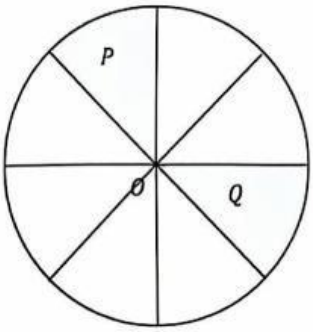
Antara titik **A**, **B**, **C** dan **D**, yang manakah ialah imej bagi titik R di bawah pantulan pada garis $y = -x$?
*Which of the points **A**, **B**, **C** and **D**, is the image of point R under the reflection in the line $y = -x$?*

LIVEWORKSHEETS

6 $Q(3, h)$ ialah imej bagi $P(g, -1)$ di bawah suatu pantulan pada garis $y = 2$. Cari nilai g dan nilai h.
KBAT
$Q(3, h)$ is the image of $P(g, -1)$ under a reflection in the line $y = 2$. Find the value of g and of h.

A $g = 3, h = 4$ **C** $g = 5, h = 3$
B $g = 3, h = 5$ **D** $g = 5, h = 6$

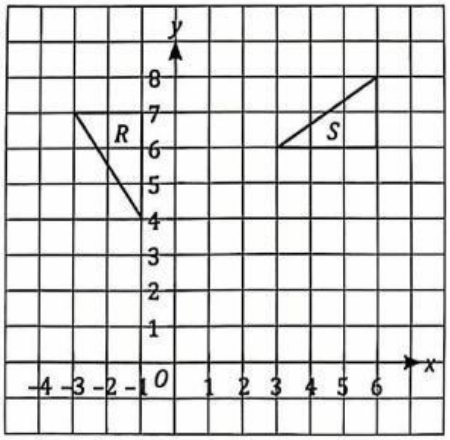
7 Rajah berikut menunjukkan sebuah bulatan yang berpusat O dibahagi sama rata kepada lapan bahagian.
The following diagram shows a circle with centre O which is equally divided into eight sections.



Q ialah imej bagi P di bawah suatu putaran ikut arah jam pada pusat O. Tentukan sudut putaran.
Q is the image of P under a clockwise rotation at centre O. Determine the angle of rotation.

A 90° **C** 180°
B 135° **D** 225°

8 Rajah berikut menunjukkan S ialah imej bagi objek R di bawah suatu putaran pada satah Cartes.
The following diagram shows S is the image of object R under a rotation on a Cartesian plane.



Cari koordinat pusat putaran bagi transformasi di atas.
Find the coordinates of the centre of rotation for the transformation above.

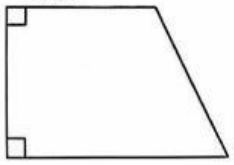
A (1, 3) **C** (2, 2)
B (1, 8) **D** (2, 3)

9 Titik $P(5, 2)$ diputarkan 90° dalam arah lawan jam pada pusat asalan. Cari koordinat bagi imej P.
Point P(5, 2) is rotated 90° anticlockwise about the origin. Find the coordinates of the image of P.

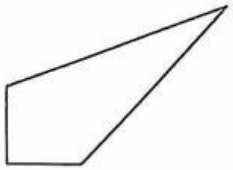
A (−2, 5)
B (−1, 6)
C (2, −5)
D (1, −6)

10 Antara objek berikut, yang manakah mempunyai simetri putaran?
Which of the following objects has rotational symmetry?

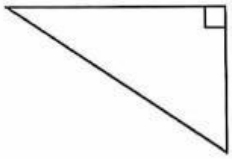
A



C



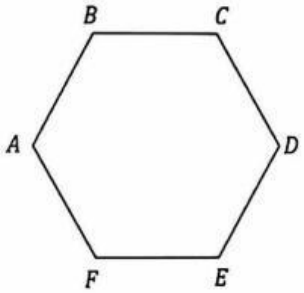
B



D



11 Rajah berikut menunjukkan sebuah heksagon sekata.
The following diagram shows a regular hexagon.



Antara berikut, yang manakah betul megenai peringkat simetri putaran jika B berada di kedudukan D?
Which of the following is correct about the rotational symmetry if B is at position D?

	Ikut arah jam *Clockwise*	**Lawan arah jam** *Anticlockwise*
A	2	3
B	2	4
C	3	3
D	4	2

LIVEWORKSHEETS

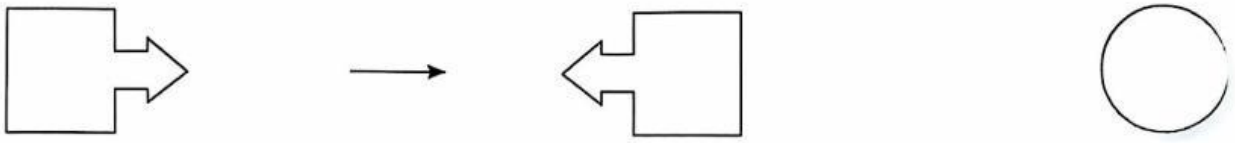
Bahagian B

1 Tandakan (✓) bagi transformasi dan (✗) bagi bukan transformasi.
Mark (✓) for the transformation and (✗) for not a transformation.

[4 markah/ *marks*]

Jawapan/ *Answer*:

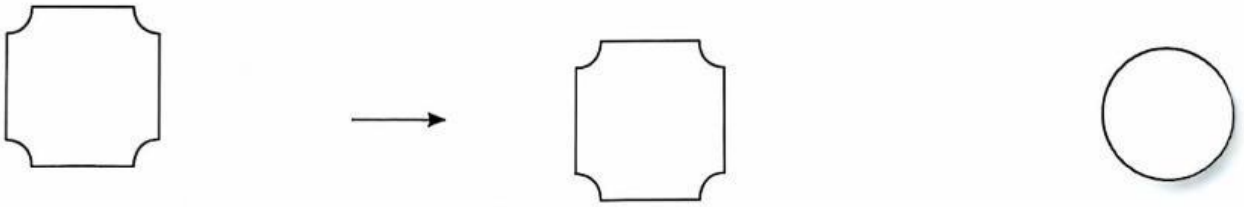
(*a*)



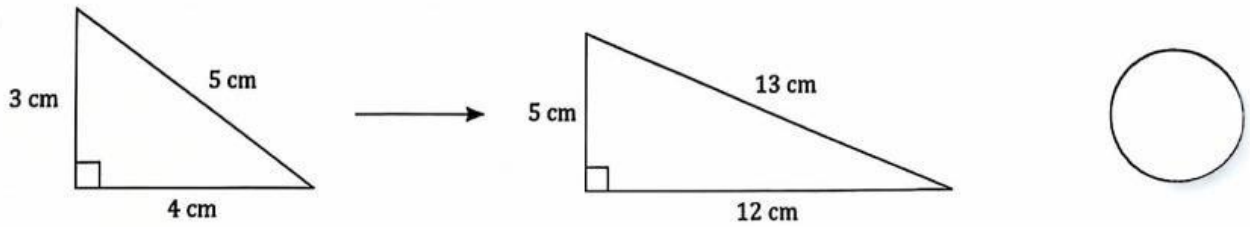
(*b*)



(*c*)

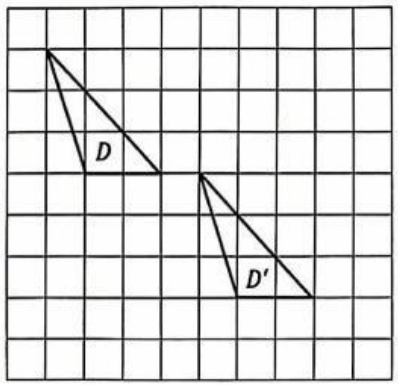


(*d*)

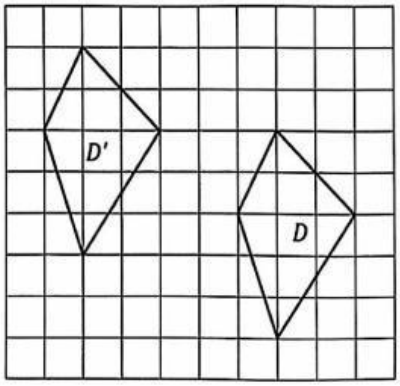


2 (*a*) Dalam rajah berikut, *D'* ialah imej bagi *D* di bawah suatu translasi. Nyatakan translasi tersebut.
In the following diagram, D' is the image of D under a translation. State the translation.

(i)



(ii)



[2 markah/ *marks*]

Jawapan/ *Answer*:

(i)

(ii)

LIVEWORKSHEETS