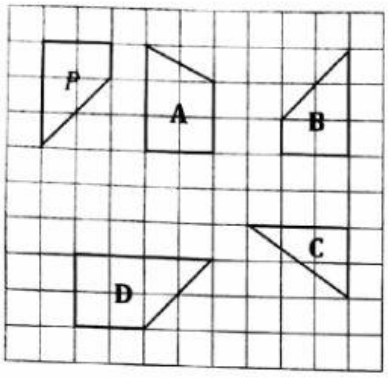
Praktis ke Arah PT3

Jawab **semua** *soalan.*

Bahagian A

1 Antara bentuk **A**, **B**, **C** dan **D**, yang manakah adalah kongruen kepada bentuk *P*?
*Which of the shapes **A**, **B**, **C** and **D**, is congruent to shape P?*



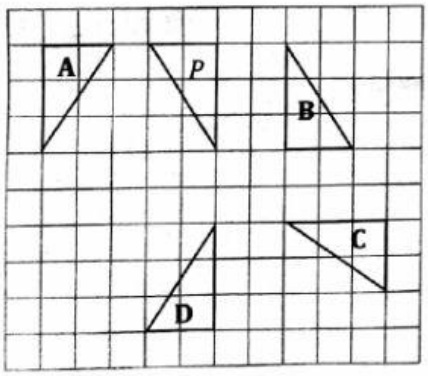
2 Jika $P'(3, -4)$ ialah imej bagi *P* di bawah translasi $\begin{pmatrix} -7 \\ 6 \end{pmatrix}$, cari koordinat bagi *P*.
If P'(3, –4) is the image of P under the translation $\begin{pmatrix} -7 \\ 6 \end{pmatrix}$, *find the coordinates of P.*

A (4, –10)
B (4, –2)
C (10, –2)
D (10, –10)

3 Imej bagi $R(2, -5)$ ialah $R'(6, -7)$ di bawah suatu translasi. Tentukan imej bagi titik $S(-6, 8)$ di bawah translasi yang sama.
The image of R(2, –5) is R'(6, –7) under a translation. Determine the image of point S(–6, 8) under the same translation.

A (–2, 6)
B (–2, 10)
C (10, 6)
D (10, 10)

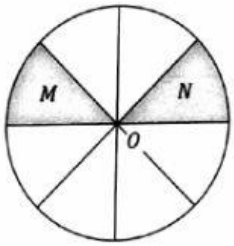
4 Antara bentuk **A**, **B**, **C** dan **D**, yang manakah **bukan** imej bagi *P* di bawah suatu pantulan?
*Which of the shapes **A**, **B**, **C** and **D**, is **not** an image of P under a reflection?*



5 $E(-4, 7)$ dipantulkan pada paksi-*x*. Nyatakan koordinat imej bagi *E*.
E(–4, 7) is reflected in the x-axis. State the coordinates of the image of E.

A (4, –7)
B (4, 7)
C (–4, –7)
D (–7, –4)

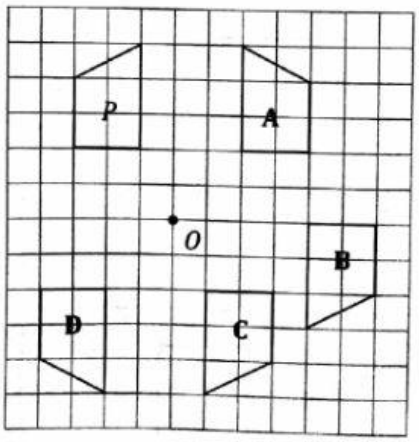
6 Rajah berikut menunjukkan sebuah bulatan dibahagikan kepada lapan sektor yang sama saiz.
The following diagram shows a circle divided into eight sectors of the same size.



Sektor *N* ialah imej bagi sektor *M* di bawah suatu putaran ikut arah jam pada pusat *O*. Nyatakan sudut putaran.
Sector N is the image of sector M under a clockwise rotation about centre O. State the angle of rotation.

A 45°
B 60°
C 90°
D 135°

7 Rajah berikut menunjukkan lima bentuk dilukis pada suatu satah Cartes.
The following diagram shows five shapes drawn on a Cartesian plane.



Antara bentuk **A**, **B**, **C** dan **D**, yang manakah ialah imej bagi *P* di bawah suatu putaran pada pusat *O*?
*Which of the shapes **A**, **B**, **C** and **D**, is the image of P under a rotation about centre O?*

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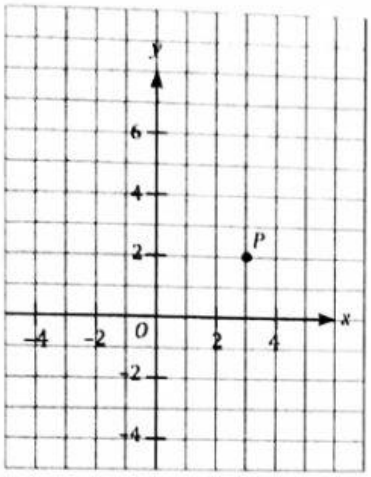
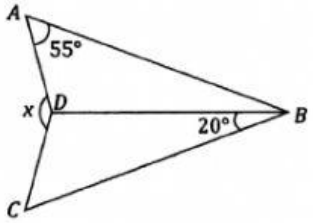
8 Rajah berikut menunjukkan titik P dilukis pada suatu satah Cartes.
The following diagram shows point P drawn on a Cartesian plane.



Titik P diputarkan 90° lawan arah jam pada pusat $(-1, 0)$. Nyatakan koordinat imej bagi titik P.
Point P is rotated 90° anticlockwise about the centre (−1, 0). State the coordinates of the image of P.

A $(-3, 4)$ **C** $(1, -4)$
B $(-3, 2)$ **D** $(0, -4)$

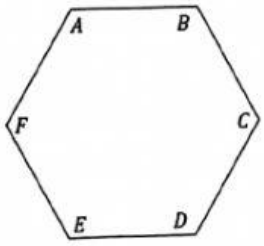
9 Dalam rajah berikut, segi tiga BCD ialah imej bagi segi tiga BAD di bawah suatu transformasi isometri.
In the following diagram, triangle BCD is the image of triangle BAD under an isometric transformation.



Hitung nilai x.
Calculate the value of x.

A 105° **C** 135°
B 120° **D** 150°

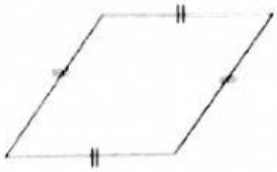
10 Rajah berikut menunjukkan sebuah heksagon sekata.
The following diagram shows a regular hexagon.



Tentukan peringkat simetri putaran apabila kedudukan A diputar kepada kedudukan C.
Determine the order of rotational symmetry when position A is rotated to position C.

A Pertama
First
B Kedua
Second
C Ketiga
Third
D Keempat
Fourth

11 Rajah berikut menunjukkan sebuah bentuk.
The following diagram shows a shape.



Tentukan peringkat simetri putaran bagi bentuk tersebut.
Determine the order of rotational symmetry of the shape.

A Tiada peringkat
No order
B Pertama
First
C Kedua
Second
D Ketiga
Third

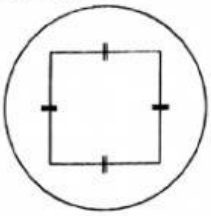
Bahagian B

1 (*a*) Tandakan (✓) bagi bentuk yang mempunyai simetri putaran dan (✗) bagi yang tidak.
Mark (✓) for the shape which has rotational symmetry and (✗) for which does not.

[2 markah/ *marks*]

Jawapan/ *Answer*:

(i)



(ii)

(*b*) Rajah di bawah menunjukkan sebuah segi empat tepat $ABCD$. E, G, F dan H masing-masing ialah titik tengah bagi garis AB, AD, DC dan BC.
The diagram below shows a rectangle ABCD. E, G, F and H are the midpoints of the lines AB, AD, DC and BC respectively.

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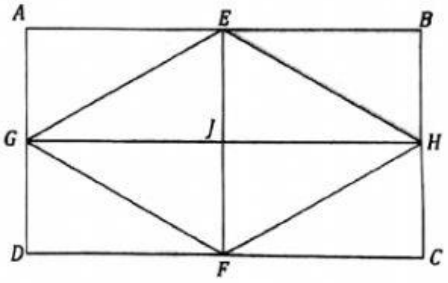

Segi tiga BEH adalah berlorek. Menggunakan konsep pantulan, segi tiga yang manakah dalam rajah itu mesti berlorek? Nyatakan paksi pantulan.
The triangle BEH is shaded. Using the concept of reflection, which triangle in the diagram is also shaded? State the axis of reflection.

[2 markah/ *marks*]

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