

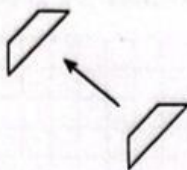
## 11.4 Putaran

A. Tentukan sama ada setiap transformasi yang berikut ialah putaran atau bukan.

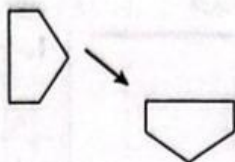
Determine whether each of the following transformations is a rotation.

TP1

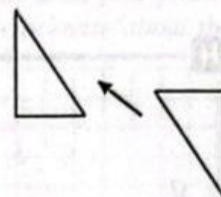
1.



2.



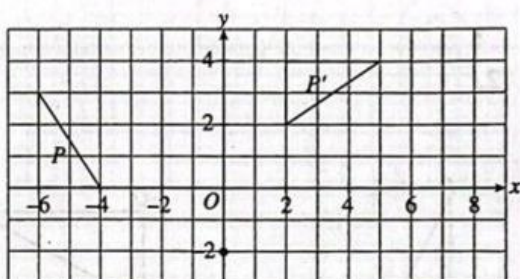
3.



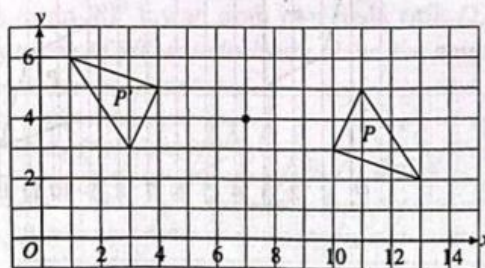
B.  $P'$  ialah imej bagi  $P$  di bawah suatu putaran. Huraikan putaran itu.

$P'$  is the image of  $P$  under a rotation. Describe the rotation.

1.



4.

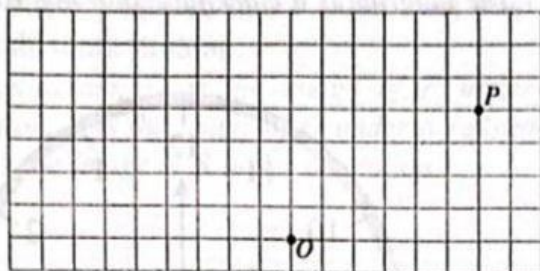


A. Lukis imej bagi  $P$  di bawah putaran yang diberikan.

Draw the image of  $P$  under the given rotation.

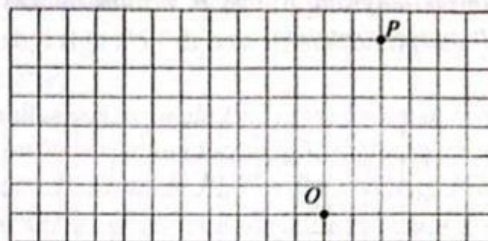
1. Putaran  $90^\circ$  lawan arah jam pada titik  $O$ .

Rotation of  $90^\circ$  anticlockwise about the point  $O$ .



2. Putaran  $270^\circ$  ikut arah jam pada titik  $O$ .

Rotation of  $270^\circ$  clockwise about the point  $O$ .



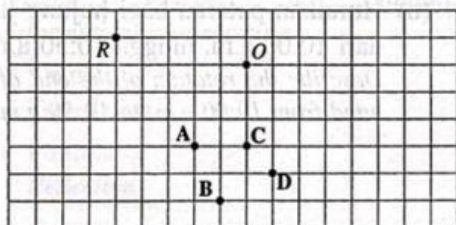
B.  $R$  ialah imej bagi suatu objek di bawah putaran yang diberikan. Bulatkan objek bagi  $R$ .

$R$  is the image of an object under the given rotation. Circle the object of  $R$ .

TP3

1. Putaran  $90^\circ$  ikut arah jam pada titik  $O$ .

Rotation of  $90^\circ$  clockwise about the point  $O$ .



2. Putaran  $180^\circ$  pada titik  $O$ .

Rotation of  $180^\circ$  about the point  $O$ .

