Unit level:
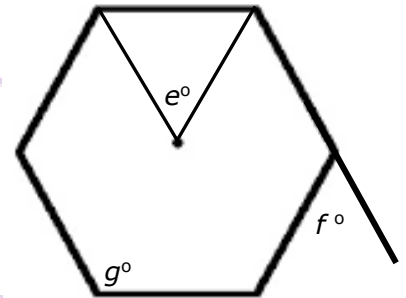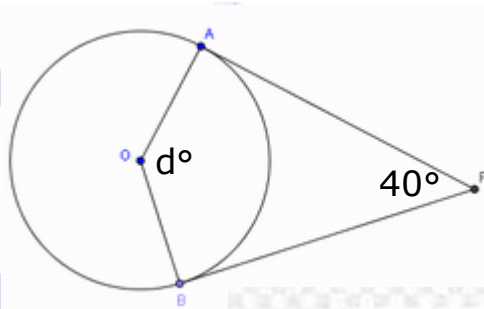
1. Find the sizes of the following angles:

$c°$

$b°$

C $110°$

$a°$

$d°$

$40°$ P
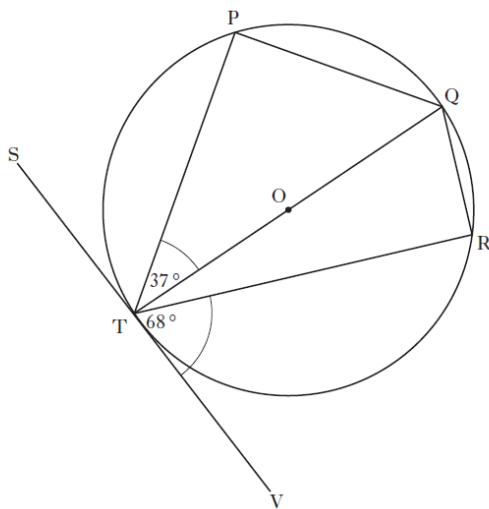
A

B

$e°$

$f°$

$g°$
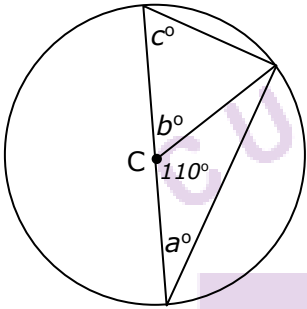
2. Calculate the length of the space diagonal in the cuboid shown:

13

6

18
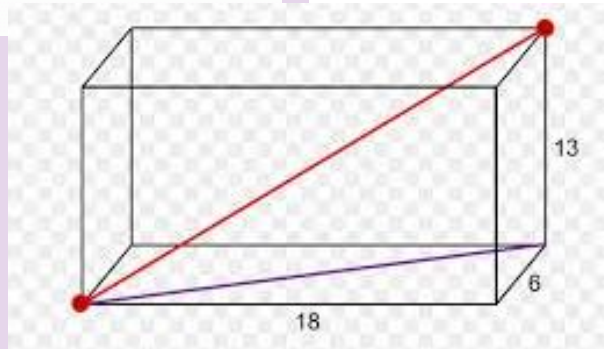
Assessment level:

3. Find the size of angle PQR.

P

Q

S

O

R

$37°$

T $68°$

V

4. Find the size of angle EPR.

B

E

C $48°$

O

P

R

R

OFB

A

E

B

O

D

C

F
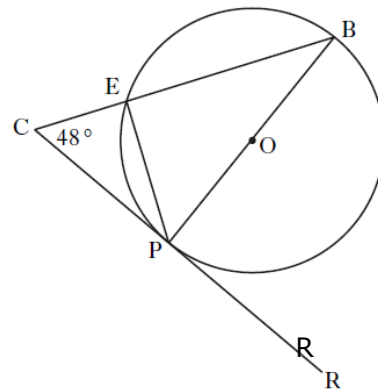
6. Midtown is East of Lowtown

Hightown

85 km

110 km

Lowtown   75 km   Midtown
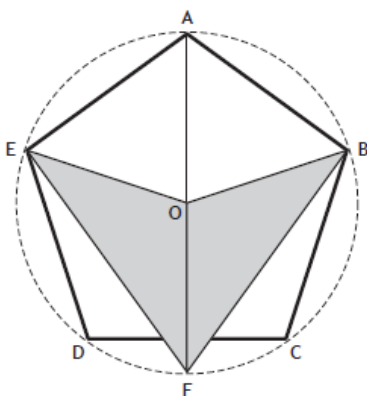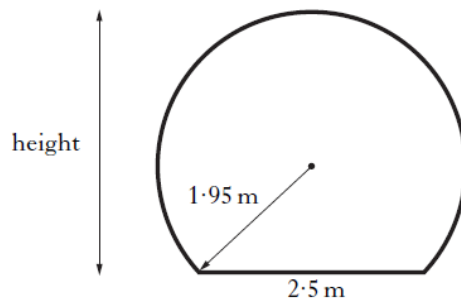
Is Hightown North of Lowtown?

7. A railway goes through a tunnel. The diagram shows part of the cross-section of the tunnel. The radius of the circle is 1.95 metres and the width of the base is 2.5 metres. Find the height of the tunnel to two decimal places.

height

1·95 m

2·5 m

8. The shape below is used as a logo in an advertising campaign. It is made up from segments of two identical circles.

P

C

A   B

D

Q
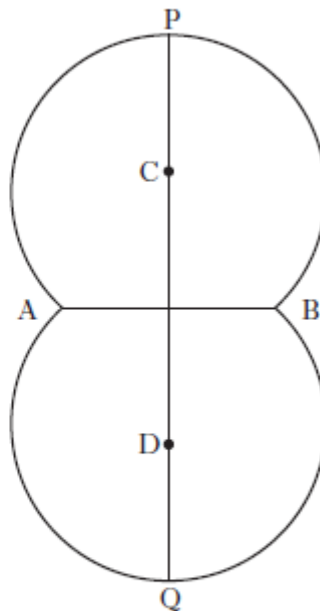
The points C and D are the centres of the circles and each circle has a radius of 24 centimetres.

AB is a common chord of length 30 centimetres.

Calculate the height of the logo, represented by the line PQ.