

National 5 Maths

Angles in Shapes

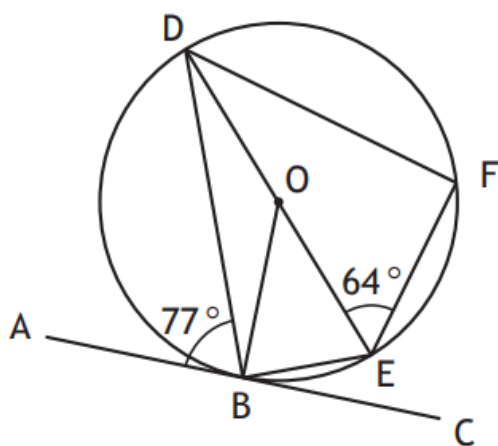
SQA past paper and specimen paper
questions and answers by topic

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AC is a tangent to the circle, centre O, with point of contact B.

DE is a diameter of the circle and F is a point on the circumference.

Angle ABD is 77° and angle DEF is 64° .

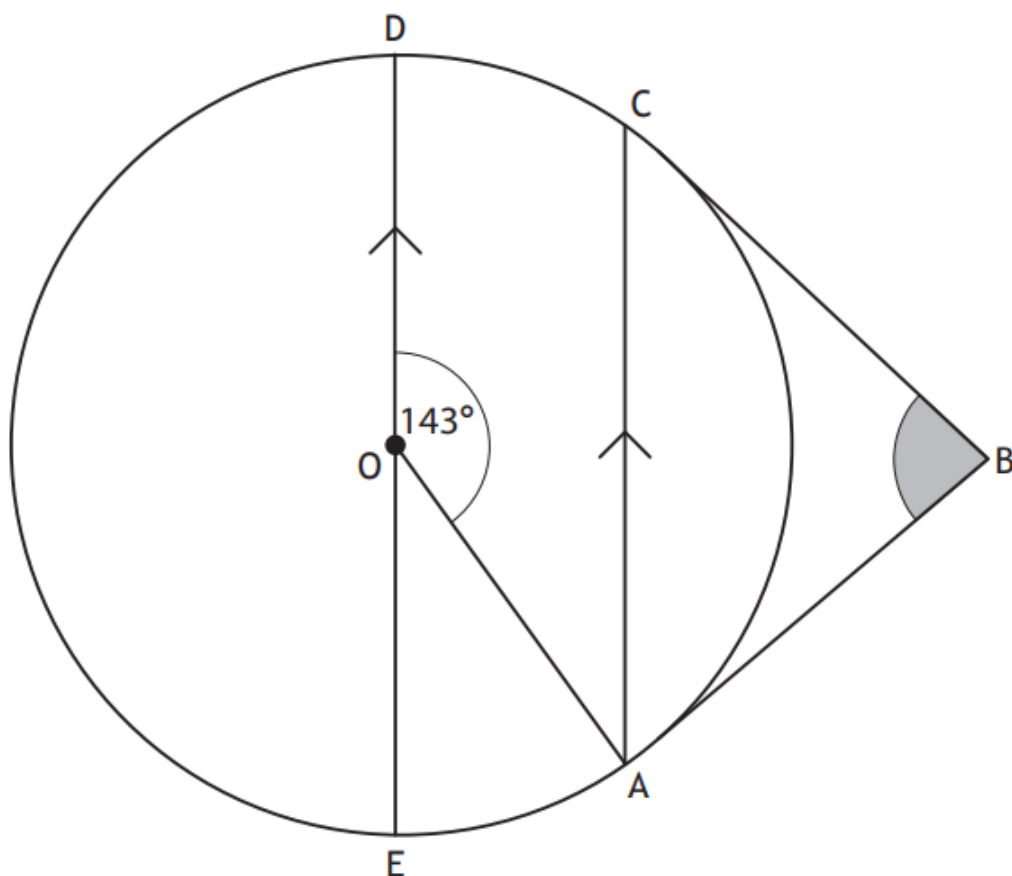
Calculate the size of angle BDF.

3

Answer:

39°

The diagram below shows a circle, centre O.



- AB and CB are tangents to the circle.
- AC and ED are parallel.
- Angle AOD is 143° .

Calculate the size of angle ABC.

3

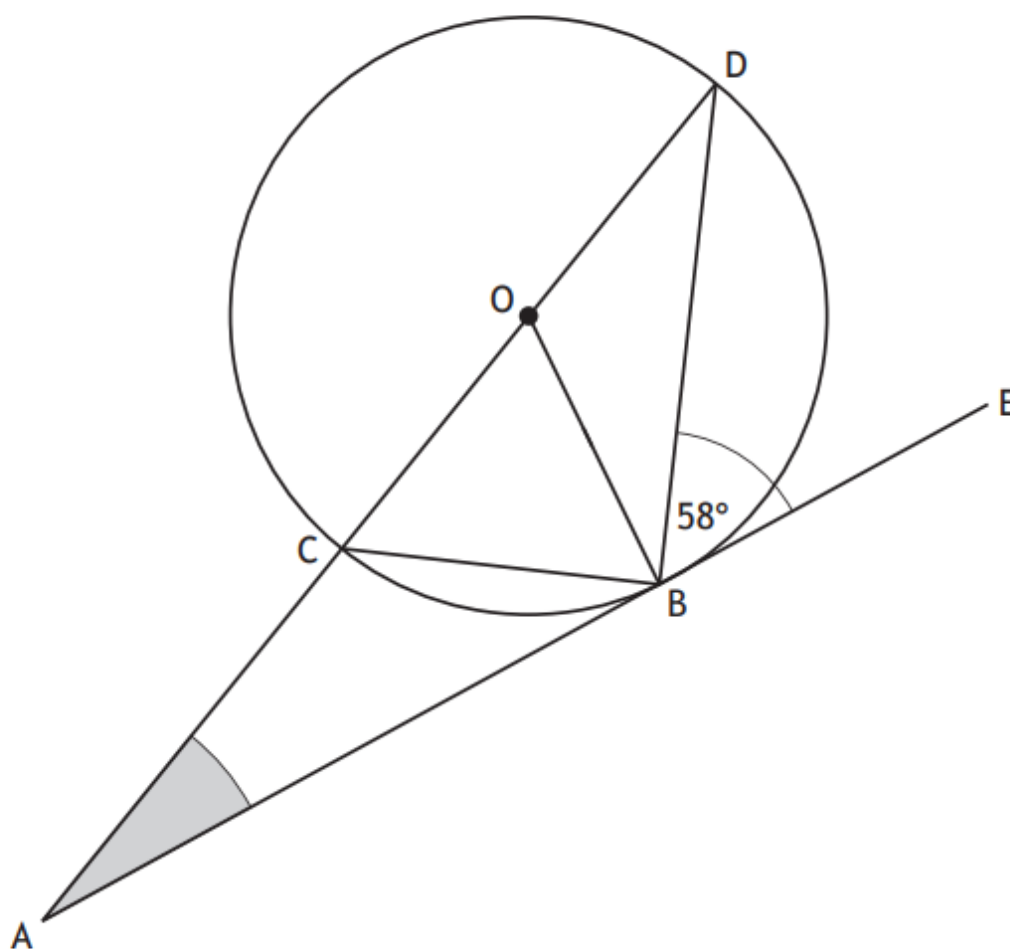
Answer:

74°



In the diagram shown below:

- ABE is a tangent to the circle centre O
- Angle DBE is 58°



Calculate the size of angle CAB.

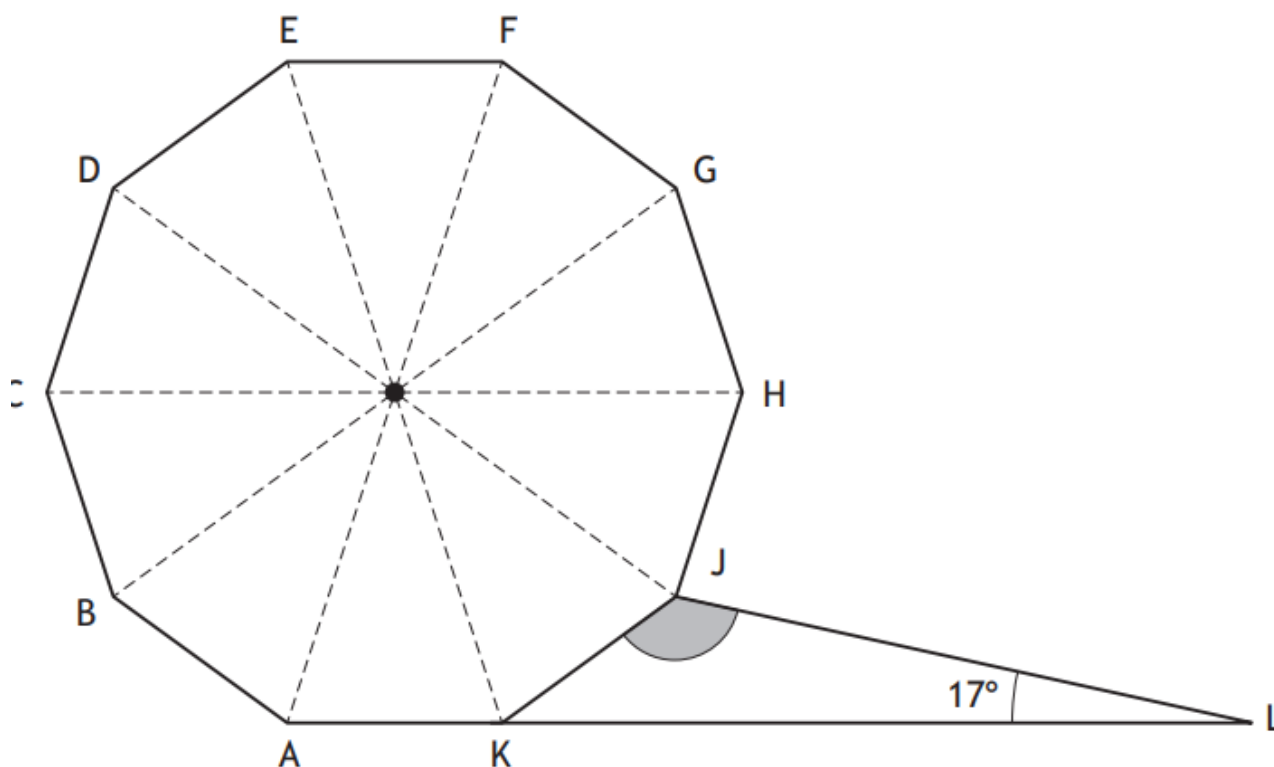
3

Answer:

26°

In the diagram shown below, ABCDEFGHJK is a regular decagon.

- Angle KLJ is 17° .
- AKL is a straight line.



Calculate the size of shaded angle KJL.

2

Answer:

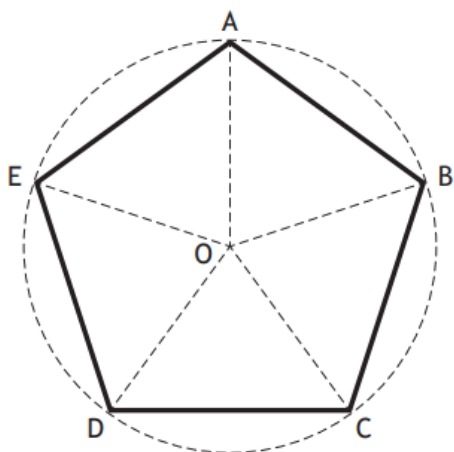
127°

National 5 Maths
SQA 2019 Paper 1
Question 11

Pam is designing a company logo.

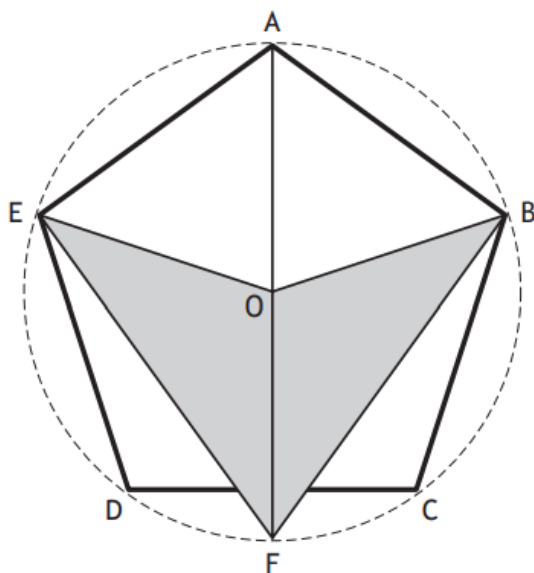
She starts by drawing a regular pentagon ABCDE.

The vertices of the pentagon lie on the circumference of a circle with centre O.



She then adds to the design as shown in the diagram below.

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AF is a diameter of the circle.

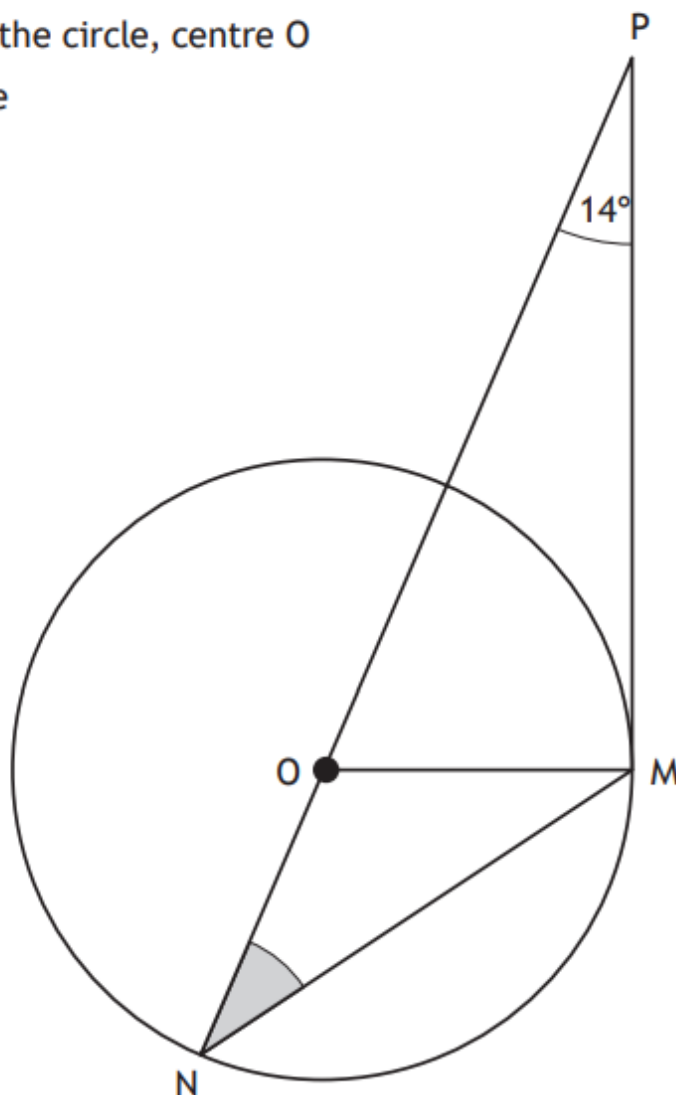
Calculate the size of angle OFB.

3

Answer: 36°

In the diagram shown below

- PM is a tangent to the circle, centre O
- PN is a straight line
- angle OPM is 14° .



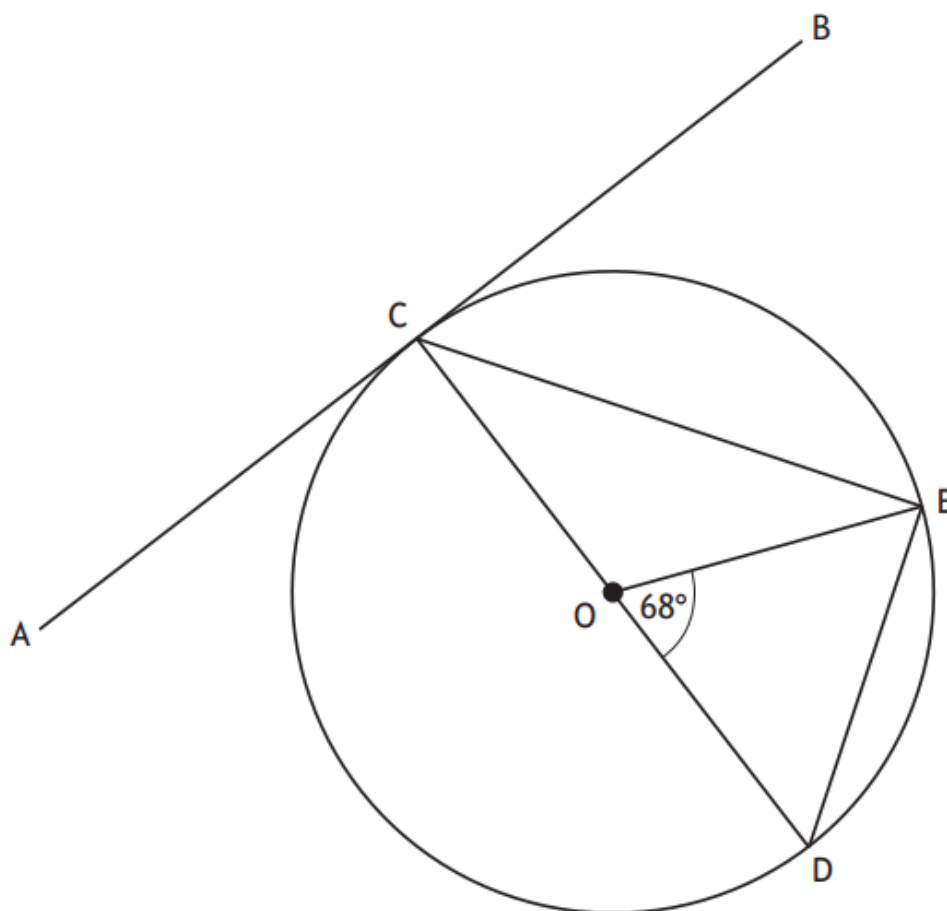
Calculate the size of shaded angle ONM.

2

Answer:

38°

The diagram below shows a circle with centre O.



AB is a tangent to the circle at the point C.

CD is a diameter of the circle.

Angle EOD is 68° .

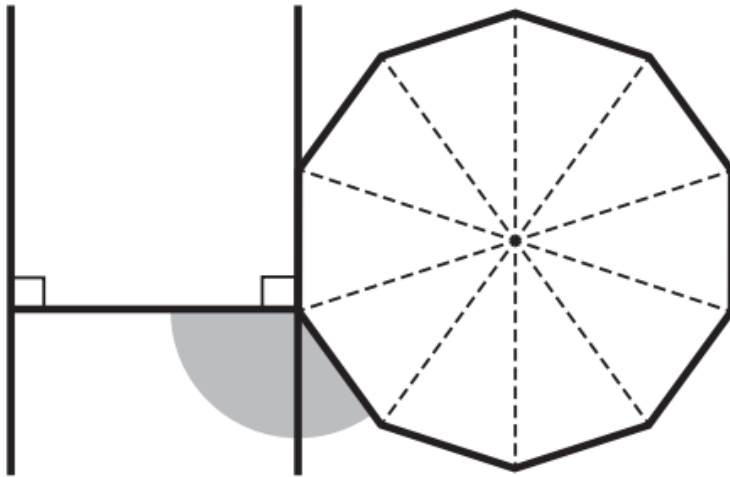
Calculate the size of angle ACE.

3

Answer:

124°

A logo consists of an H shape and a regular decagon.
The diagram represents the logo.



Calculate the size of the shaded angle.

2

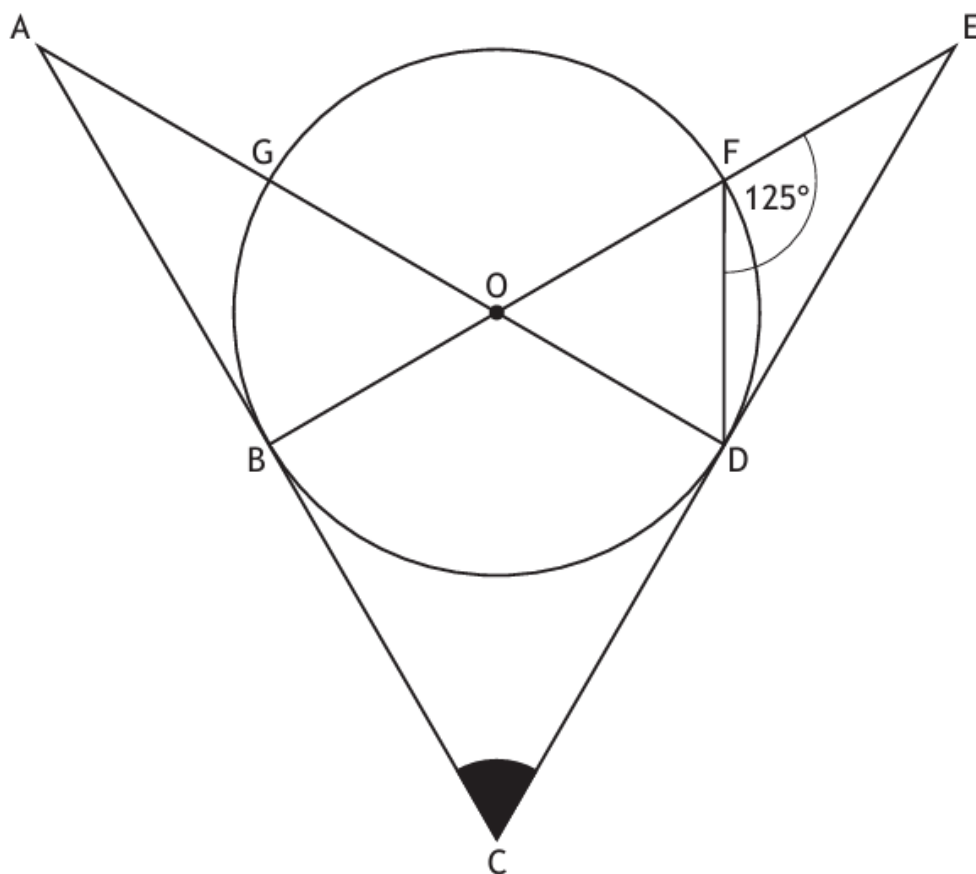
Answer:

126°

National 5 Maths
SQA 2024 Paper 1
Question 10

The diagram below shows a circle centre O.

- AC is a tangent to the circle at the point B.
- CE is a tangent to the circle at the point D.
- DG and BF are diameters of the circle.
- Angle DFE is 125° .



Calculate the size of shaded angle BCD.

3

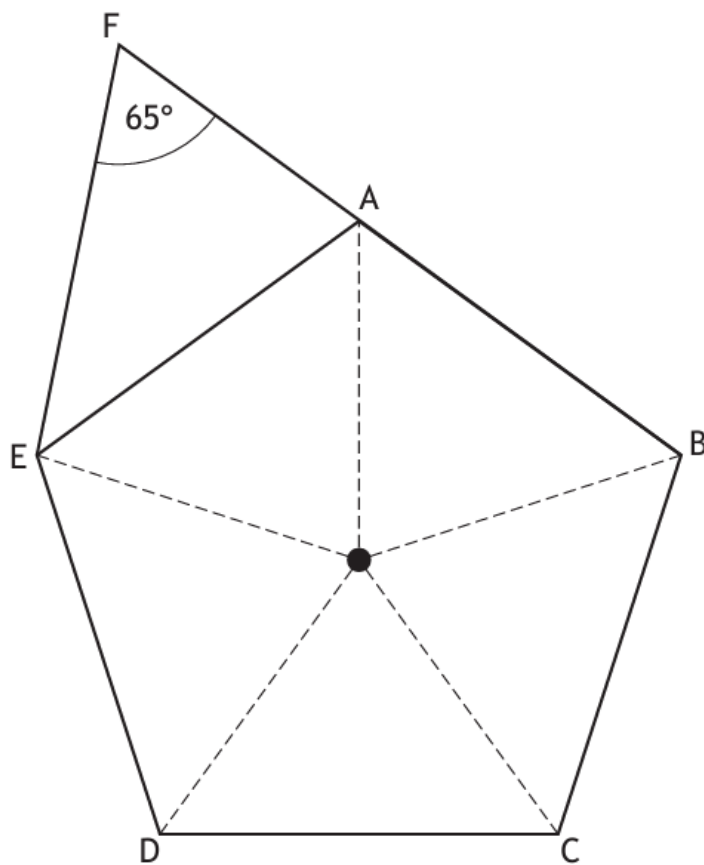
Answer:

70°

National 5 Maths
SQA 2025 Paper 2
Question 7

In the diagram, ABCDE is a regular pentagon.

- Angle EFA is 65° .
- FAB is a straight line.



Calculate the size of angle FEA.

2

Answer:

43°