

Understand and use the sum of angles at a point

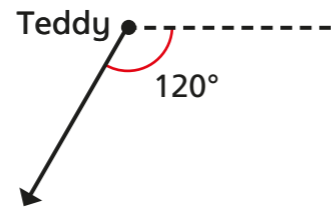
1 a) How many degrees are in a full turn?

360°

b) Teddy is facing forward.



He turns through 120° .

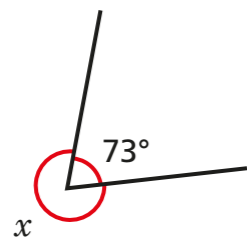


How many more degrees does he need to turn through to get back to his starting point?

240°

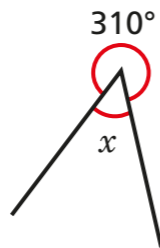
2 Find the size of angle x .

a)



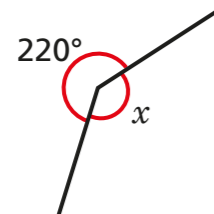
$x = 287^\circ$

c)



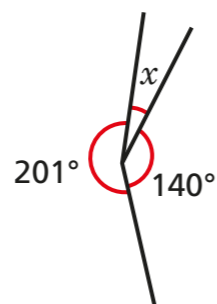
$x = 50^\circ$

b)



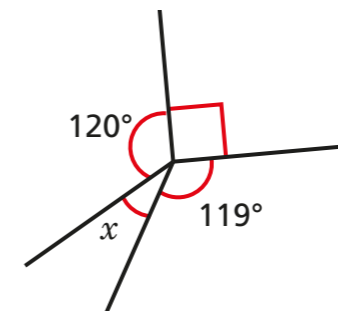
$x = 140^\circ$

d)



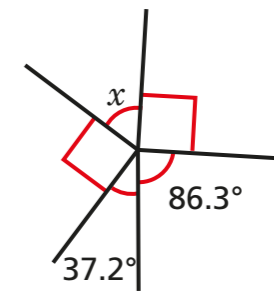
$x = 19^\circ$

e)



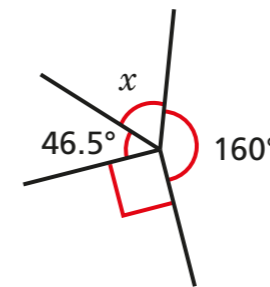
$x = 31^\circ$

g)



$x = 56.5^\circ$

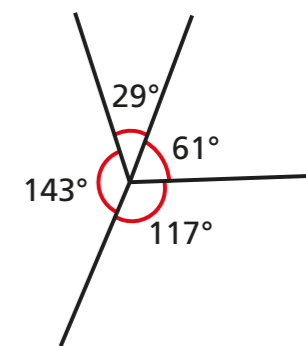
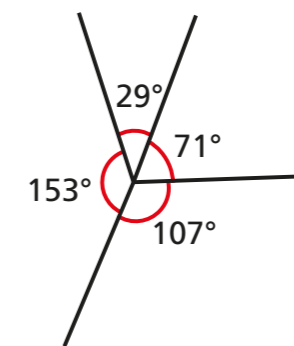
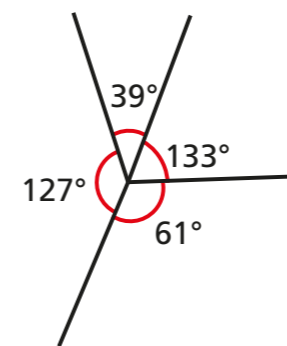
f)



$x = 63.5^\circ$

3

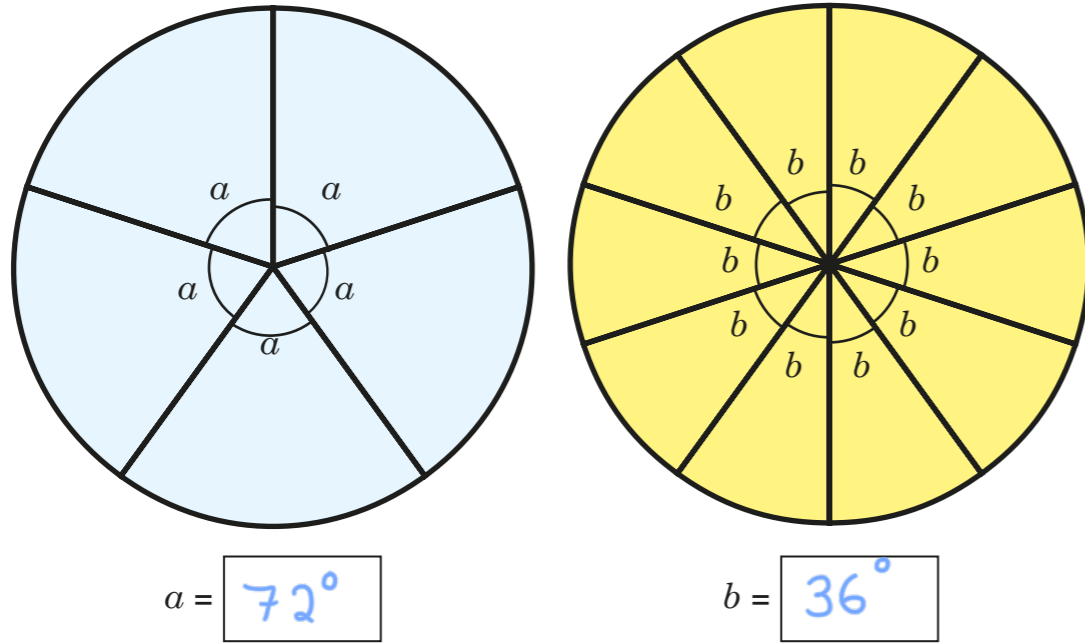
Tick the correct diagram.



Explain your choice.

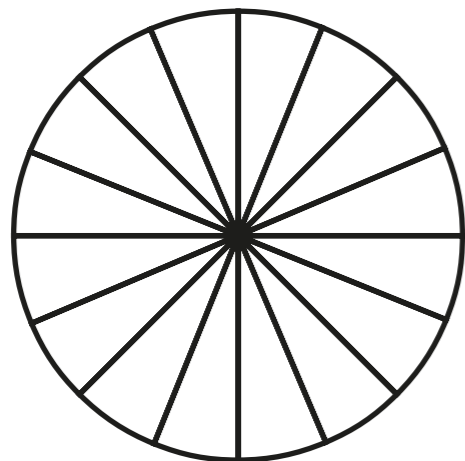


- 4 a) Find the sizes of angles a and b .



Discuss with a partner how you worked them out.

- b) Annie draws a pie chart.
She splits it into 16 equal sectors.
What is the angle of each sector?

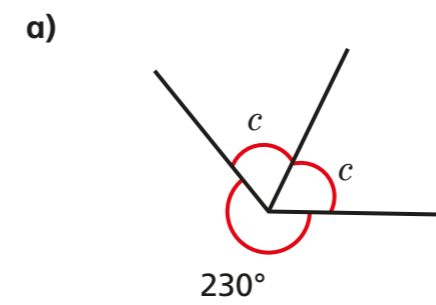


22.5°

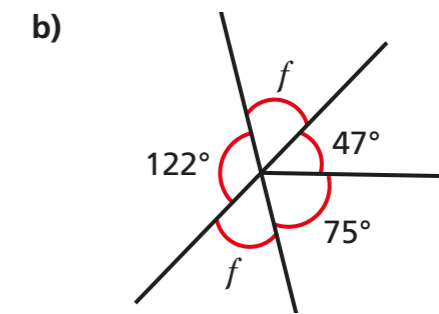
- c) Annie's pie chart represents 800 students.
How many students are represented in 5 of the sections?

250 students

- 5 Work out the sizes of the unknown angles.



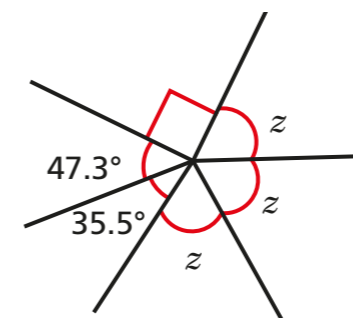
$c = 65^\circ$



$f = 58^\circ$

Compare your method with a partner's.

- 6 Form and solve an equation to find the size of angle z .



$3z + 172.8 = 360$

$z = 62.4^\circ$

- 7 Four line segments are drawn from a point O.
They are OP, OQ, OR and OS.
P, Q, R and S are points drawn clockwise in order around O.
Angle SOR is 91° .
Angle POQ is 26° more than angle SOR.
Angle QOR is a right angle.
Four children have worked out the size of angle SOP.
Who is correct? Tick your answer.

Tom
 243°

Whitney
 153°

Esther
 152°

Amir
 62° ✓

Explain the mistakes that the others have made.