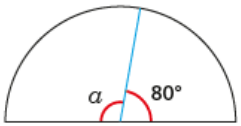
Angles Activities – Lesson 1

Calculating angles on a straight line

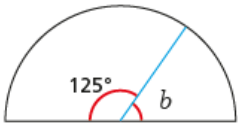
1 Work out the sizes of the unknown angles.

a)



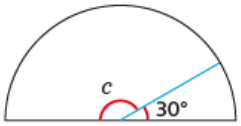
$a =$ 100 °

b)



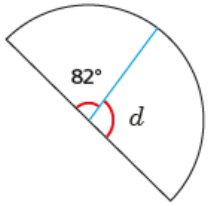
$b =$ 55 °

c)



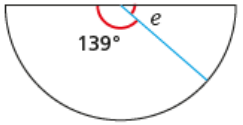
$c =$ 150 °

d)



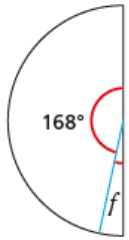
$d =$ 98 °

e)



$e =$ 41 °

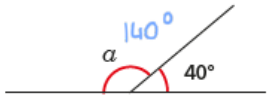
f)



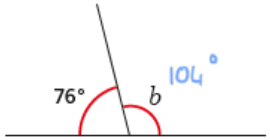
$f =$ 12 °

2 Work out the size of the unknown angles.

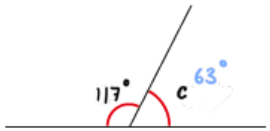
a)



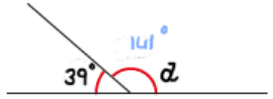
b)



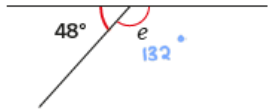
c)



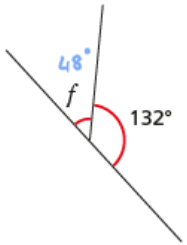
d)



e)

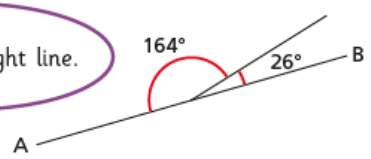


f)



3 Dora draws two angles.

AB is a straight line.



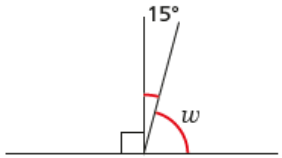
Do you agree with Dora? No

Explain your answer.

4 Work out the size of the unknown angles.

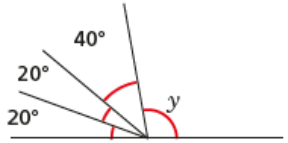
Show the steps in your working.

a)



$w =$ 75° °

c)

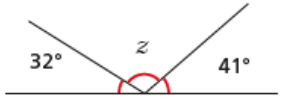


$y =$ 100° °

b)

$x =$ 69 °

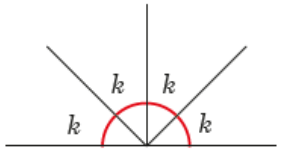
d)



$z =$ 107 °

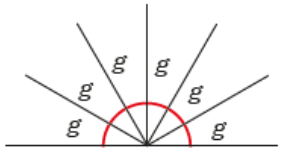
5 Work out the sizes of the unknown angles.

a)



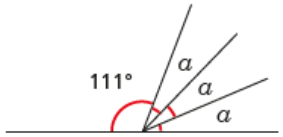
$k =$ 45 °

b)



$g =$ 30 °

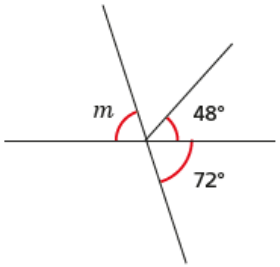
6 Work out the size of angle a.



$a =$ 23 °

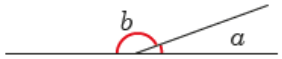
7 Work out the size of angle m.

Show all your working out.



$m =$ 72 °

8 Two angles are marked.



Angle b is eight times the size of angle a.

What is the size of each angle?

$a =$ 20 ° $b =$ 160 °

Angles Activities – Lesson 2

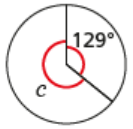
Calculating angles around a point

1 Work out the sizes of the unknown angles.

a)

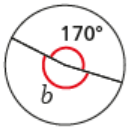
$a =$ 300 °

c)



$c =$ 231 °

b)



$b =$ 190 °

d)

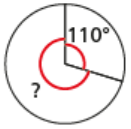
$d =$ 155 °

2 Ron turns clockwise through 110 degrees.

He continues to turn the same way.

He wants to turn to where he was facing at the start.

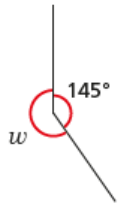
How many more degrees does he need to turn through?



250 °

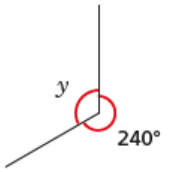
3 Work out the size of the unknown angles.

a)



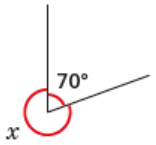
$w =$ 215 °

c)



$y =$ 120 °

b)



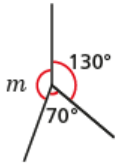
$x =$ 290 °

d)

$z =$ 95 °

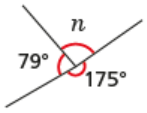
4 Work out the sizes of the unknown angles.

a)



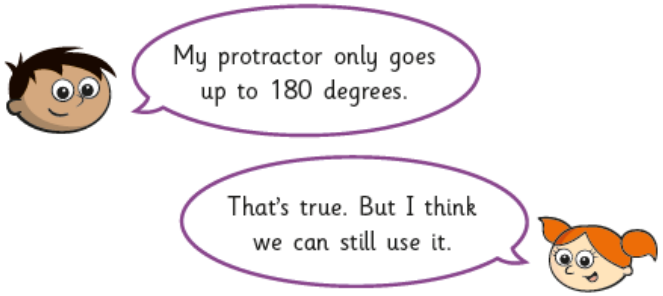
$m =$ 160 °

b)



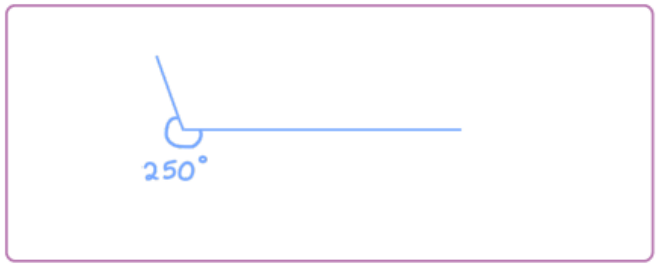
$n =$ 106 °

5 Ms Hall asks her class to draw an angle of 250 degrees.



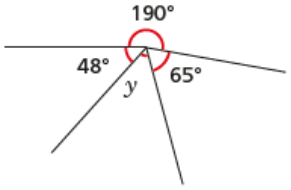
a) Explain why Alex is correct.

b) Draw an angle of 250 degrees.



Compare methods with a partner.

6 Work out the size of angle y.

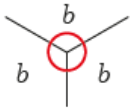


$y =$ 57 °

7 Work out the sizes of the unknown angles.

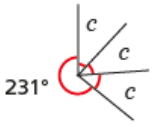
Give reasons to support your answers.

a)



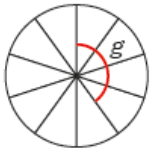
$b =$ 120° because angles around a point sum to 360° and 360 ÷ 3 = 120

b)



$c =$ 43 ° because angles round a point sum to 360° 360 − 231 = 129 and 129 ÷ 3 = 43

8 A circle is divided into ten equal sections.



What is the size of the angle marked g? $g =$ 144 °

Measuring Angles (Maths Whizz – Shape and Space sheet)

Q1. 45^o

Q2. 130^o

Q3. 20^o

Q4. 140^o

Q5. 180^o

Q6. 85^o

White Rose Maths Challenges

Answers

Challenge 1 - 2 cm

Challenge 2 - B

Challenge 3 - 1, 4 or 7

Challenge 4 - Yellow circle

Challenge 5 - 192 cm^2

Challenge 6 - £5.65