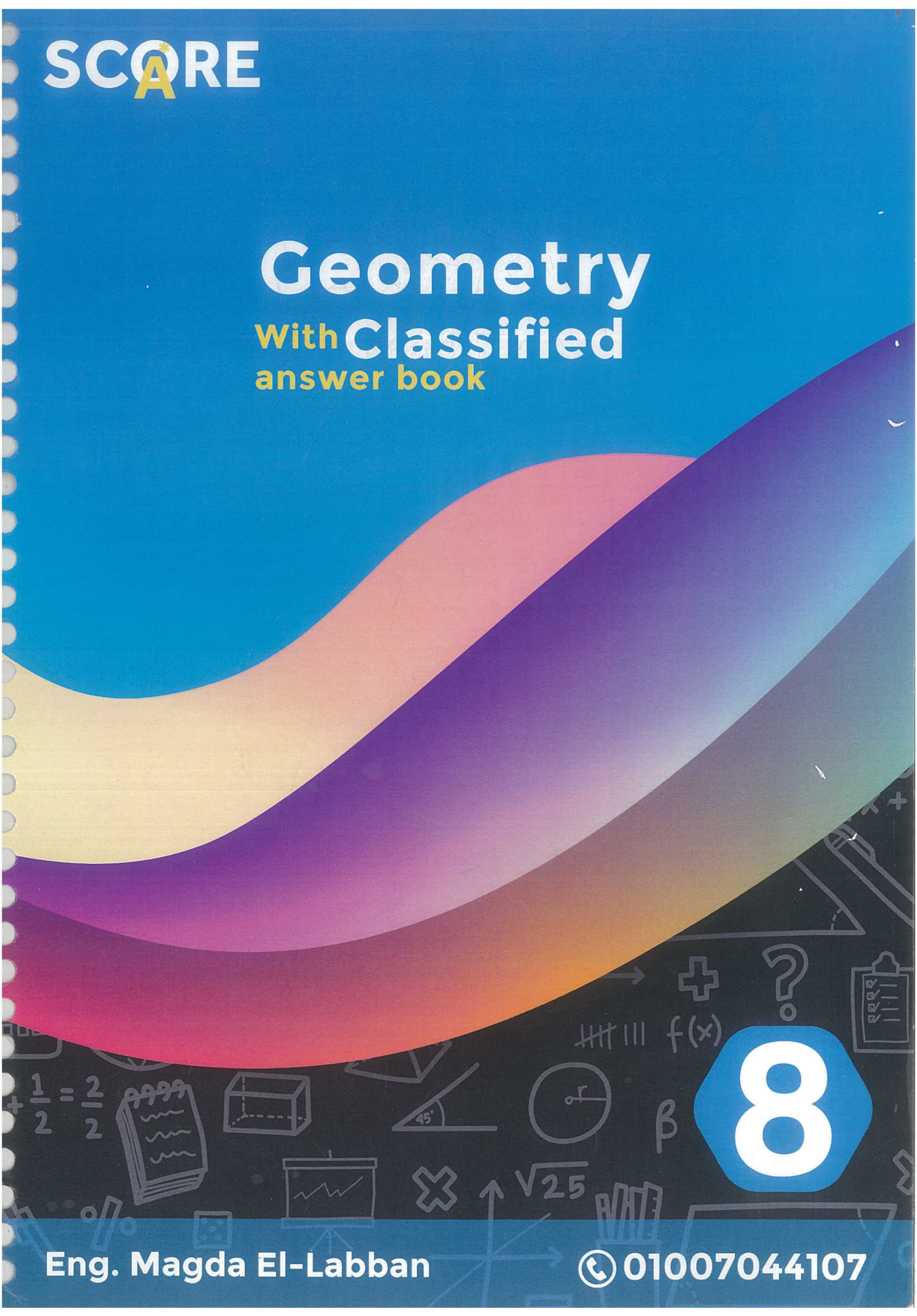
SCORE

Geometry

With Classified answer book



Eng. Magda El-Labban

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1- Missing Angles

1. Complete the angle rules.

   Angles on a straight line add up to _____

   Angles around a point add up to _____

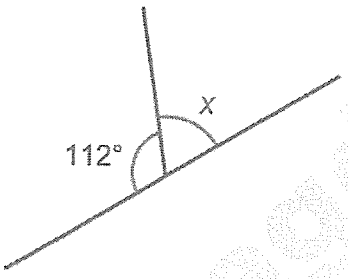
   Vertically opposite angles are add up to _____

   Sum of interior inside a triangle _____

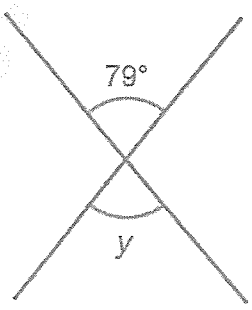
   Sum of interior inside a quadrilateral _____

2. Work out the sizes of the unknown angles. Give reasons for your answers.

   a) $x =$ ☐ because _____

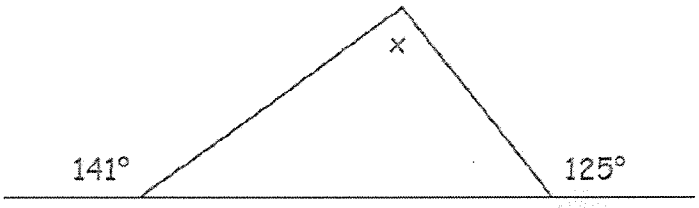


   b) $y =$ ☐ because _____



4. Peter says, "I can work out that this is a three step question."

Explain the three steps you must go through to solve this problem.

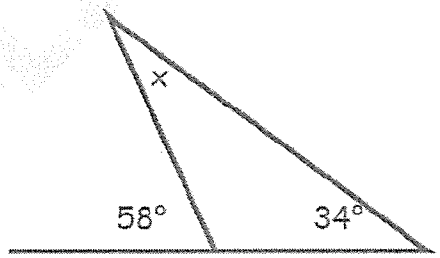


5. Daniel calculates that the missing angle is 92°.

Is he correct?

Yes No

Explain your reasoning

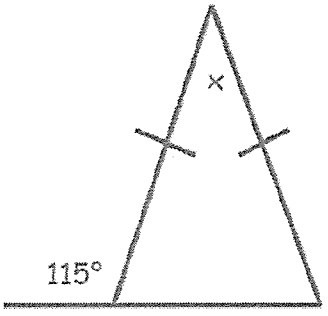


6. Kamrun thinks this challenge is impossible as he only knows the value of one angle.

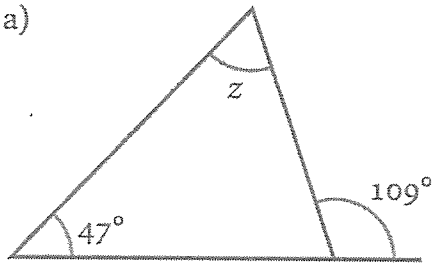
Is he correct?

Yes No

Explain your reasoning

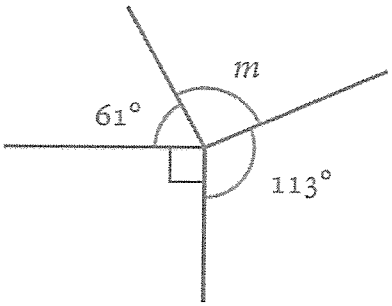


7. a)



$z =$ ☐ because _____

b)



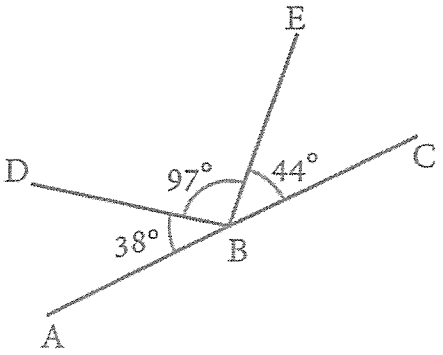
$m =$ ☐ because _____

8. a) Write the size of the given angles.

ABD ☐

EBC ☐

DBE ☐



b) Is ABC a straight line? _____

How do you know?

9. PQ is a straight line.

(a) Work out the size of the angle marked $x°$.

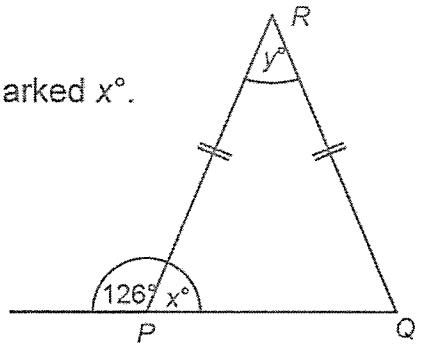


Diagram **NOT** accurately drawn

.....°

(b) (i) Work out the size of the angle marked $y°$.

.....°

(ii) Give reasons for your answer.

.....

.....

10. Work out the size of the angle a.

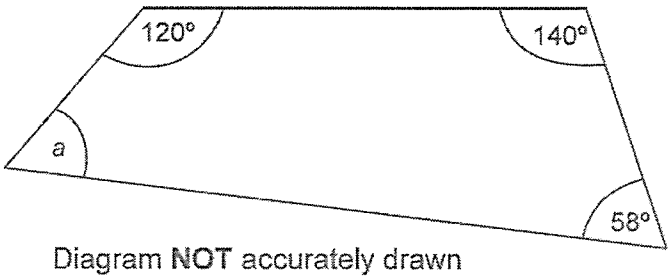


Diagram **NOT** accurately drawn

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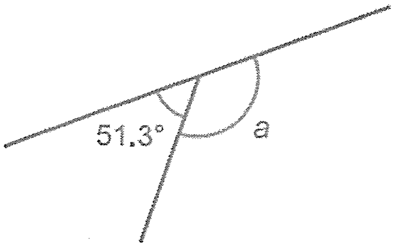
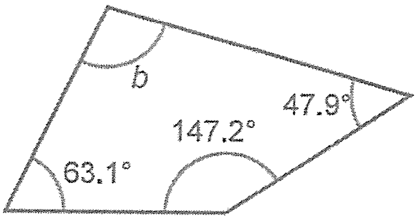
11. Work out the size of the unknown angles.

a)



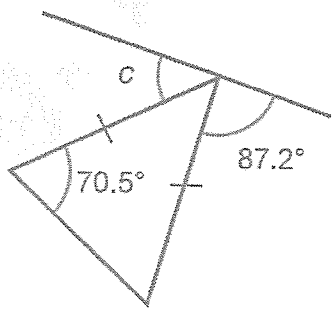
$a =$ ______

b)



$b =$ ______

c)



$c =$ ______

12.

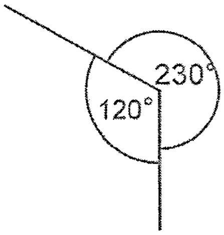


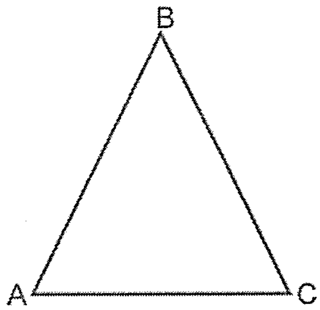
Diagram **NOT** accurately drawn

This diagram is wrong. Explain why

13. Here is a triangle.

a) ∠ BAC = 64°. Show this information on the triangle.

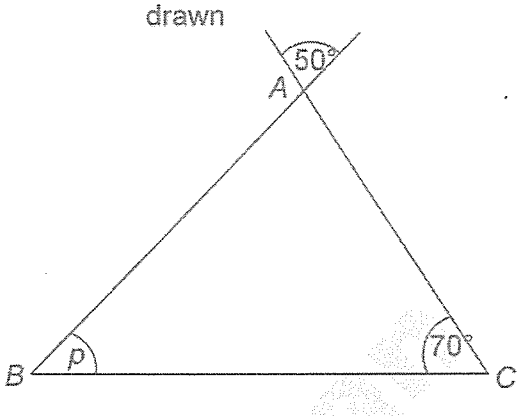
b) Given that ∠ BCA = 52°, is triangle ABC isosceles? Explain your answer.



14. *ABC* is a triangle.

Work out the size of the angle marked *p*.

Diagram **NOT** accurately drawn



p = ...°

15. Work out the value of *a*.

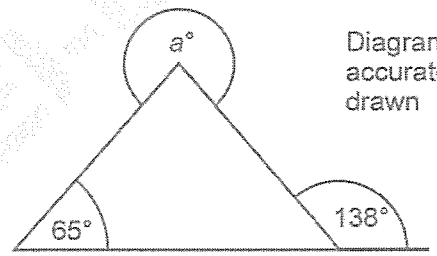
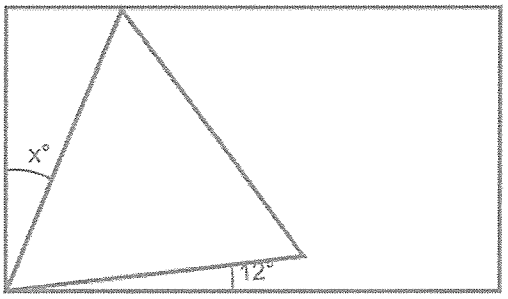


Diagram **NOT** accurately drawn

a = ...

16. Work out the value of x

Show your working out:



(All sides of the triangle are equal in length)

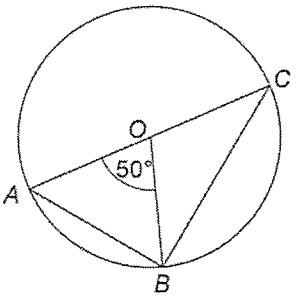
x = _____°

17. O is the center of the circle. OA, OB and OC are radii.

Angle *AOB* = 50°.

Work out

a angle *OAB*



OAB=.....°

Reason.....

b angle *OCB*

OCB .....°

Reason.....

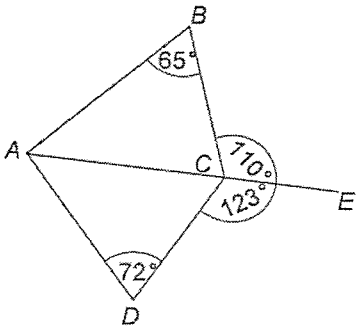
c angle *ABC*.

ABC.....°

Reason.....

18. ACE is a straight line.

Calculate angle *BAD*.

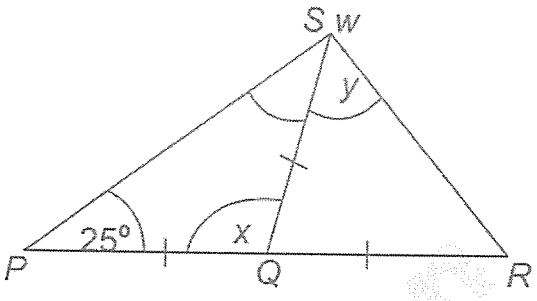


BAD =.....°

19. PQR is a straight line. $PQ = QS = QR$.

Angle $SPQ = 25°$.

Diagram **NOT** accurately drawn



(a) (i) Write down the size of angle w.

..... °

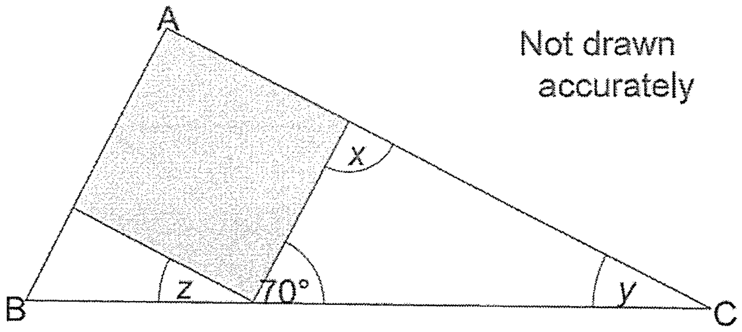
(ii) Work out the size of angle x.

..... °

(b) Work out the size of angle y.

..... °

20. Look at the right-angled triangle ABC.



The square fits exactly inside the triangle.

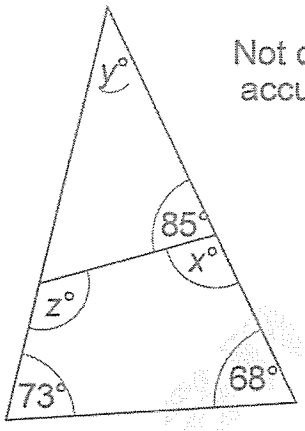
Work out the sizes of angles *x*, *y* and *z*

x = ____________ °

y = ____________ °

z = ____________ °

21. Work out the values of x, y and z.



Not drawn accurately

x = _____ °

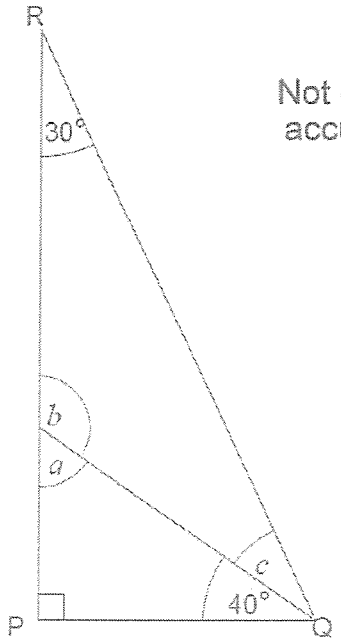
Reason.....

y = _____ °

z = _____ °

22. The diagram shows triangle PQR.

Work out the sizes of angles a, b and c

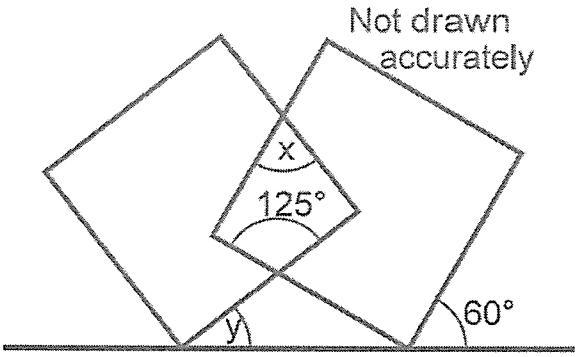


Not drawn accurately

a = ... ° b = ... ° c = ... °

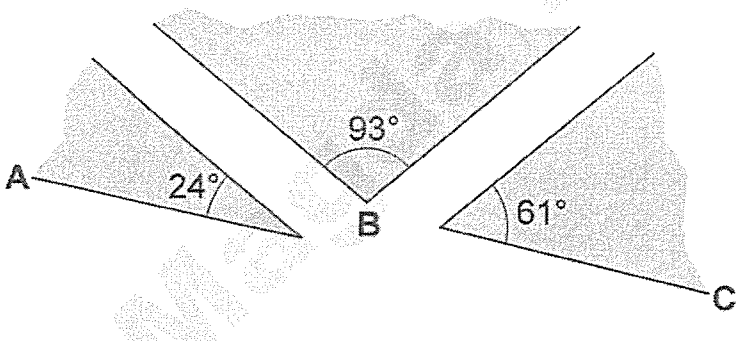
23. Two squares are on a straight line. Calculate angles x and y.

Show your working out:



x = _____° y = _____°

24. Three shapes fi t together at point B.



Not drawn accurately

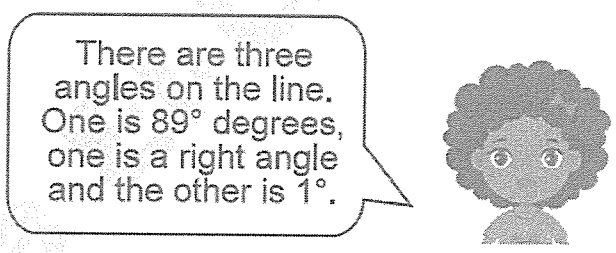
Will ABC make a straight line?

☐ Yes ☐ No

Explain your answer.

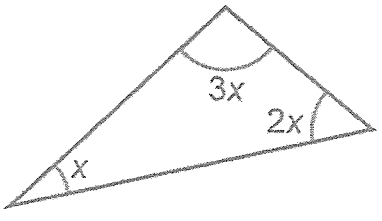
25. The angles in a triangle are in the ratio 2 : 3 : 5 Is the triangle a right-angled triangle?Show your workings.

26. Kristi is measuring angles on a straight line.
She says:



Could she be right? Explain how you know.

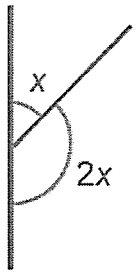
27. Work out the value of x.



$x =$ ☐

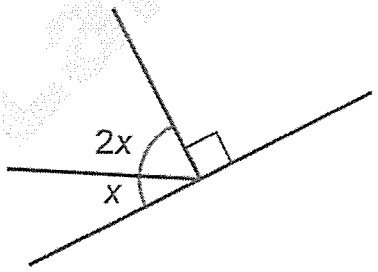
28. Work out the value of x.

a)



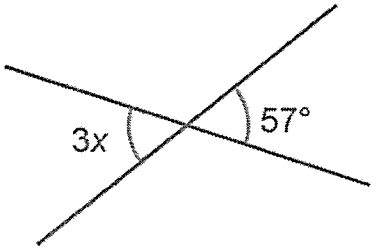
$x =$ ☐

b)



$x =$ ☐

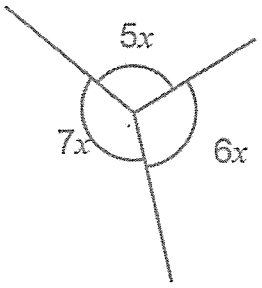
c)



$x =$ ☐

29. Explain why $18x = 360°$

Find the size of the smallest of the 3 angles.



_____°

30. The angles in a triangle are $(5x - 3)°$, $(9x)°$ and $(3x + 13)°$.

Show that the triangle is right-angled.

31. The angles of a quadrilateral are $x°$, $(x + 10)°$, $(x + 20)°$ and $(x + 30)°$.

Work out the value of x.