

SCORE

Geometry

With Classified
answer book

8

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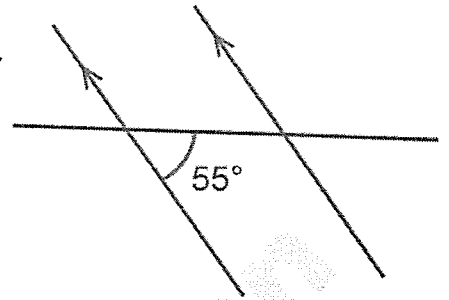
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2- Angles in parallel lines

1. Label k the angle that is alternate to the angle shown.

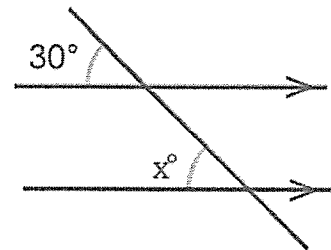
Label M the angle that is corresponding to the angle shown.

Label B the angle that is interior to the angle shown.

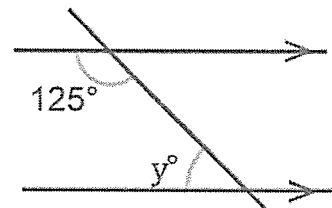


2. Work out the unknown angles.
Give reasons for your answers.

$x =$ _____ $^{\circ}$ because _____

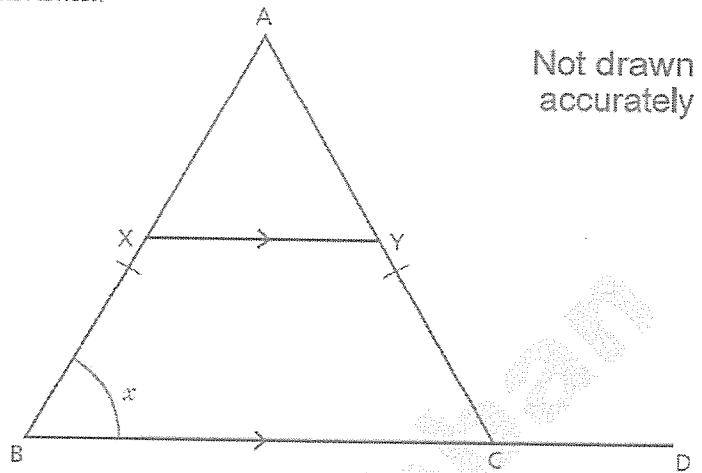


$y =$ _____ $^{\circ}$ because



3. ABC is an isosceles triangle.

Line segments XY and BD are parallel.



a) Write an expression in terms of x for the size of each angle.

$\angle ACB =$ _____

$\angle ACD =$ _____

$\angle AYX =$ _____

$\angle BXY =$ _____

$\angle AXY =$ _____

$\angle XYC =$ _____

$\angle BAC =$ _____

b)

x can take any value.
I'm going to use $x = 93^\circ$ to work out the size of each angle.

Explain why Amir's value for x is not suitable.

What would be a more suitable value for x ?

4. Match each statement to the correct reason.

$b=d$

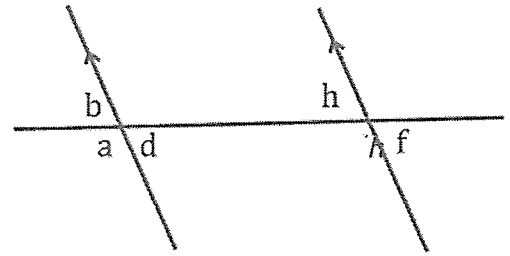
alternate angles are equal

$b=f$

corresponding angles are equal

$b=h$

vertically opposite angles are equal



5. DE is parallel to FG .

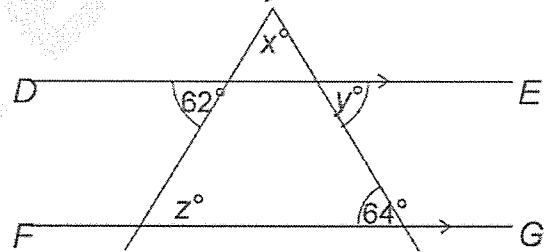
Find the size of the angle marked y° , z° , x° .

x $^\circ$

y $^\circ$

z $^\circ$

Diagram NOT accurately drawn



6. Work out the size of the angle marked x .

Give reasons for your answer.

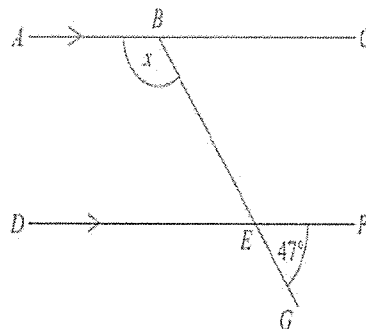
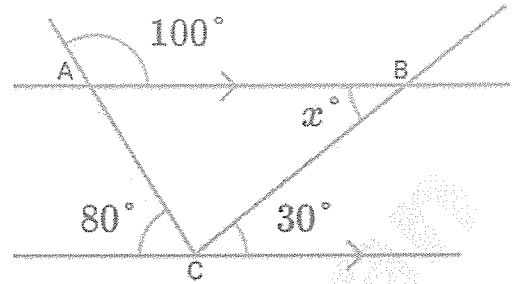


Diagram NOT accurately drawn

7. Look at the diagram below.

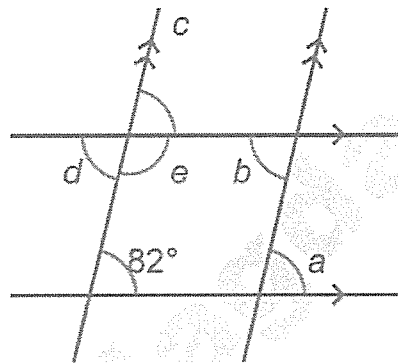
(a) Tick the box next to the correct statement.

- x is vertically opposite 30° .
- x is alternate to 30° .
- x is corresponding to 80° .
- x is co-interior with 30° .



(b) Show that triangle ABC is scalene.

8. Work out the sizes of the unknown angles.



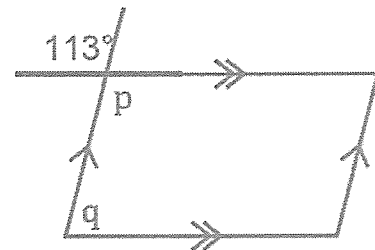
- a = Reason.....
- b = Reason.....
- c = Reason.....
- d = Reason.....
- e = Reason.....

9. Work out the size of the angle marked p and q

Give reasons for your answer.

p = _____ ° , reason _____

q = _____ ° , reason _____

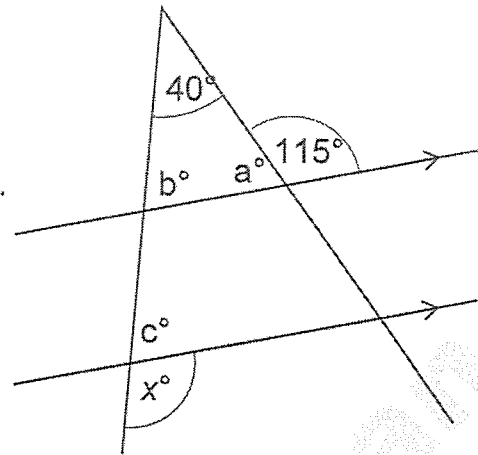


10. Work out the value of a , b , c and x .

$a =$ Reason.....

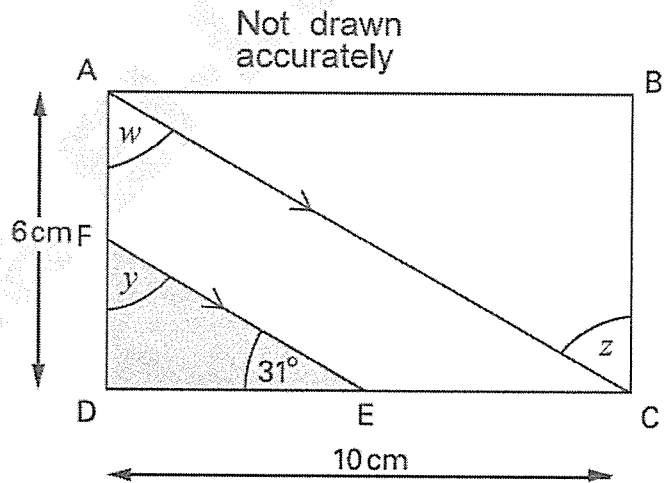
$b =$ Reason.....

$c =$ Reason.....



11. Shape ABCD is a rectangle.

E is the middle point of line DC
 F is the middle point of line AD
 Line AC is parallel to line FE



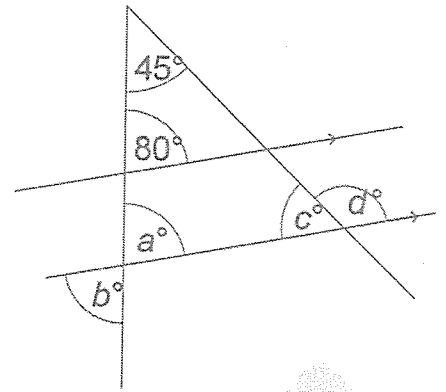
(a) How many degrees is angle y ?
 Show your working.

_____ °

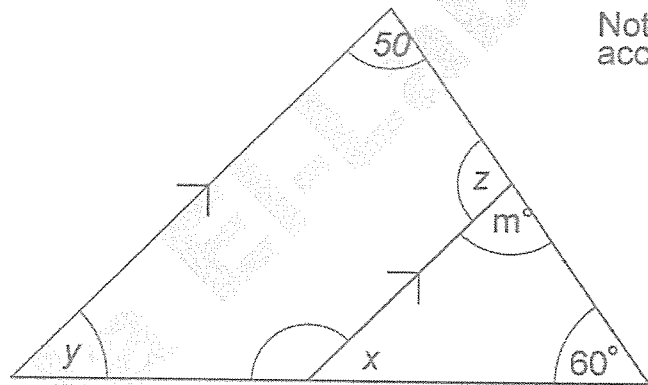
(b) How many degrees is angle w ?

_____ °

12. Work out the values of a , b , c and d .

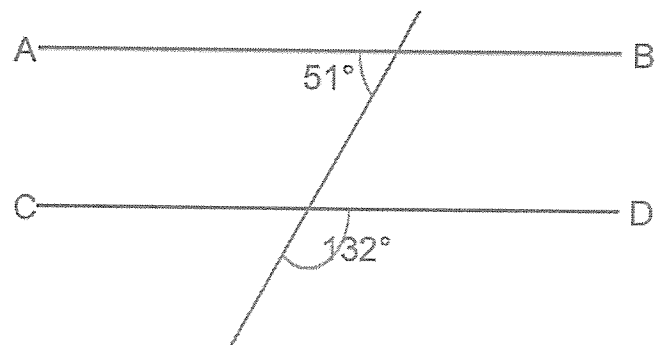


13. Work out the values of x , y , z and m . Justify your answers.

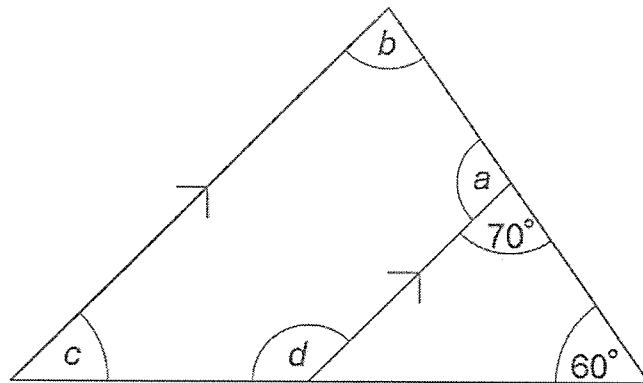


Not drawn accurately

14. Are line segments AB and CD parallel? Explain your answer.



15. Look at the diagram, made from four straight lines. The lines marked with arrows are parallel.



Not drawn accurately

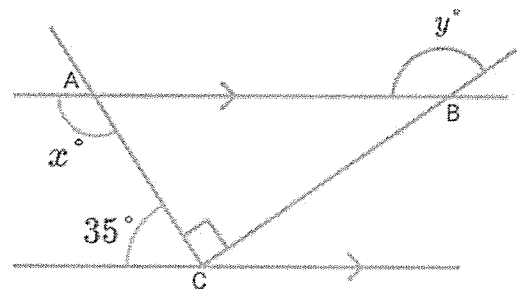
Work out the sizes of the angles marked with letters.

$a = \underline{\hspace{2cm}}^\circ$ $b = \underline{\hspace{2cm}}^\circ$

$c = \underline{\hspace{2cm}}^\circ$ $d = \underline{\hspace{2cm}}^\circ$

16. Look at the diagram below.

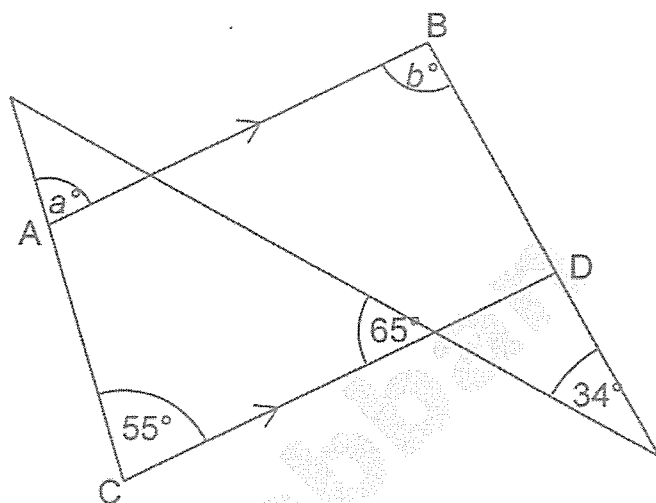
- (a) Calculate the value of x° . Show your working.



- (b) Show that $y=125^\circ$. Explain your answer.

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17. Look at the diagram.
The lines AB and CD are parallel.



- (a) (i) Write down the value of a.

a =

- (ii) Give a reason for your answer.

- (b) Work out the value of b.

b =

18. Work out the value of a , b , c and x.

a = Reason.....

b = Reason.....

c = Reason.....

