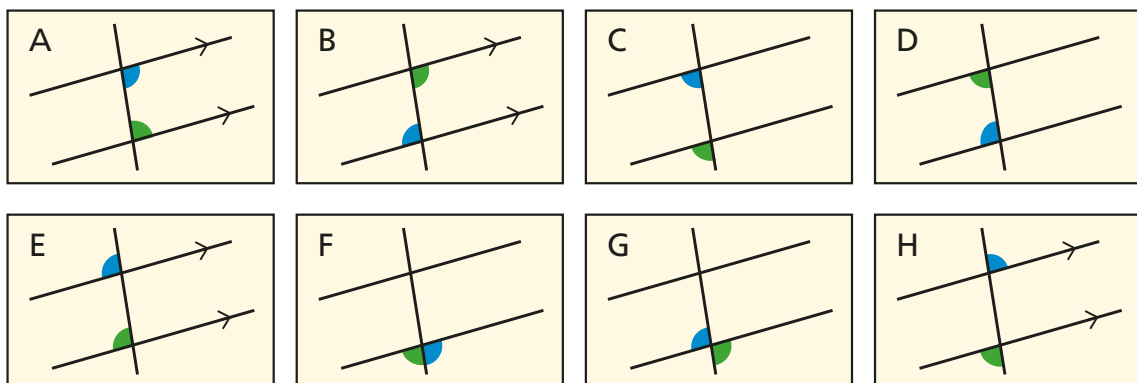


Solve complex problems with parallel line angles

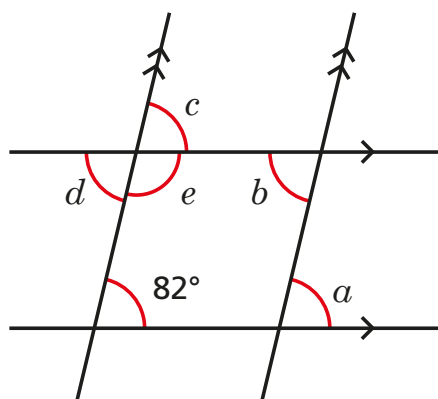
1 Sort the cards into the table.



Angles are equal	Angles sum to 180°	Not enough information

2 Work out the sizes of the unknown angles.

a)



$$a = \boxed{}$$

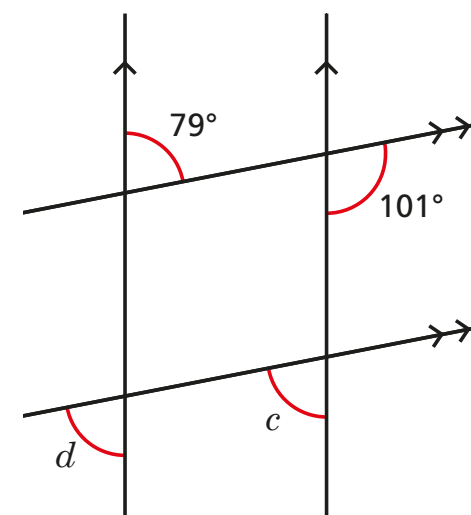
$$b = \boxed{}$$

$$c = \boxed{}$$

$$d = \boxed{}$$

$$e = \boxed{}$$

b)



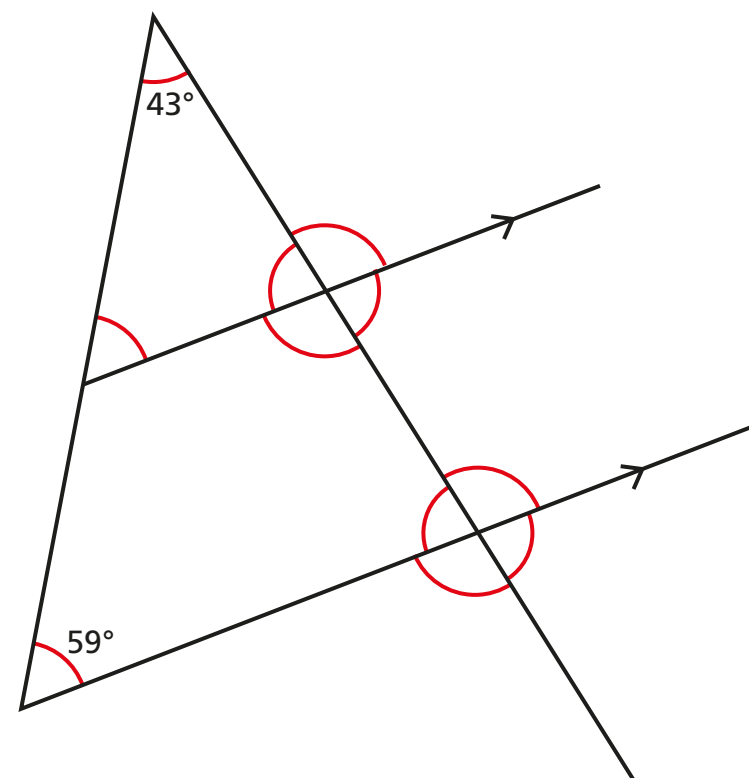
$$c = \boxed{}$$

$$d = \boxed{}$$

Compare your method with a partner. Which angle rules did you use?

3

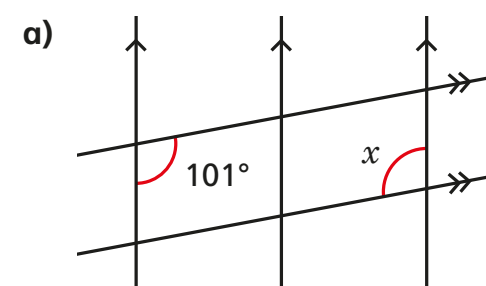
Work out the sizes of the unknown angles and label them on the diagram.



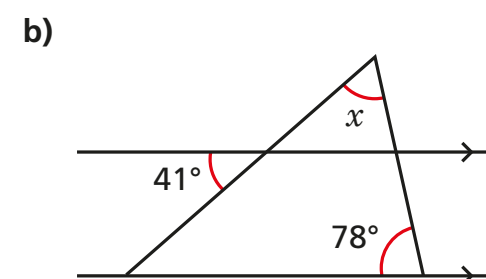
Discuss your reasons for each angle with a partner.

Did you work them out the same way?

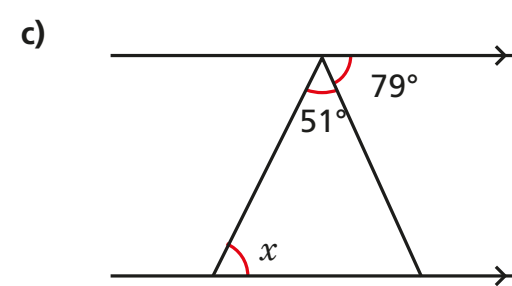
4 Work out the size of angle x in each diagram.



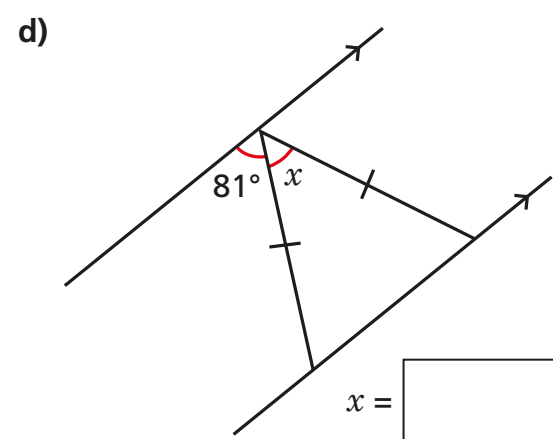
$x =$



$x =$

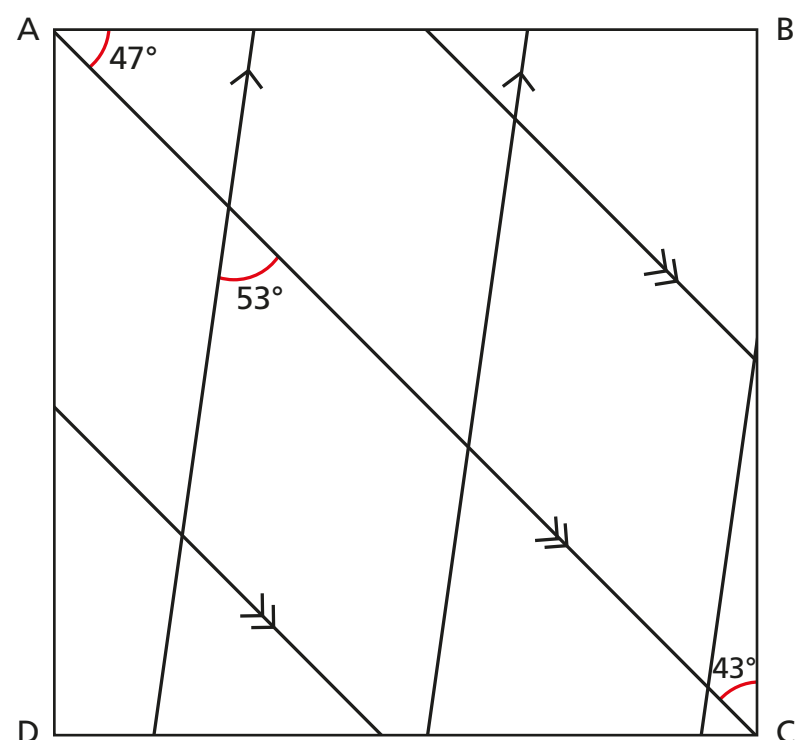


$x =$

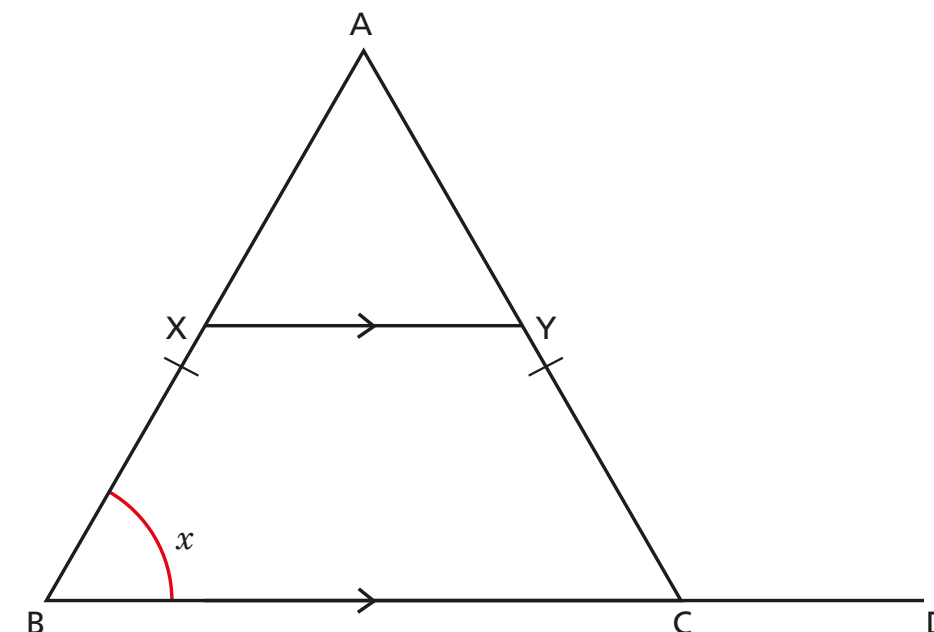


$x =$

5 ABCD is a rectangle.
Work out as many of the unknown angles as possible and label them on the diagram.



6 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.

$\angle ACB =$ _____ $\angle ACD =$ _____

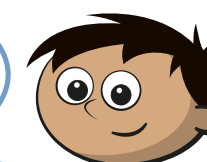
$\angle AYX =$ _____ $\angle BXY =$ _____

$\angle AXY =$ _____ $\angle XYC =$ _____

$\angle BAC =$ _____

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 ?