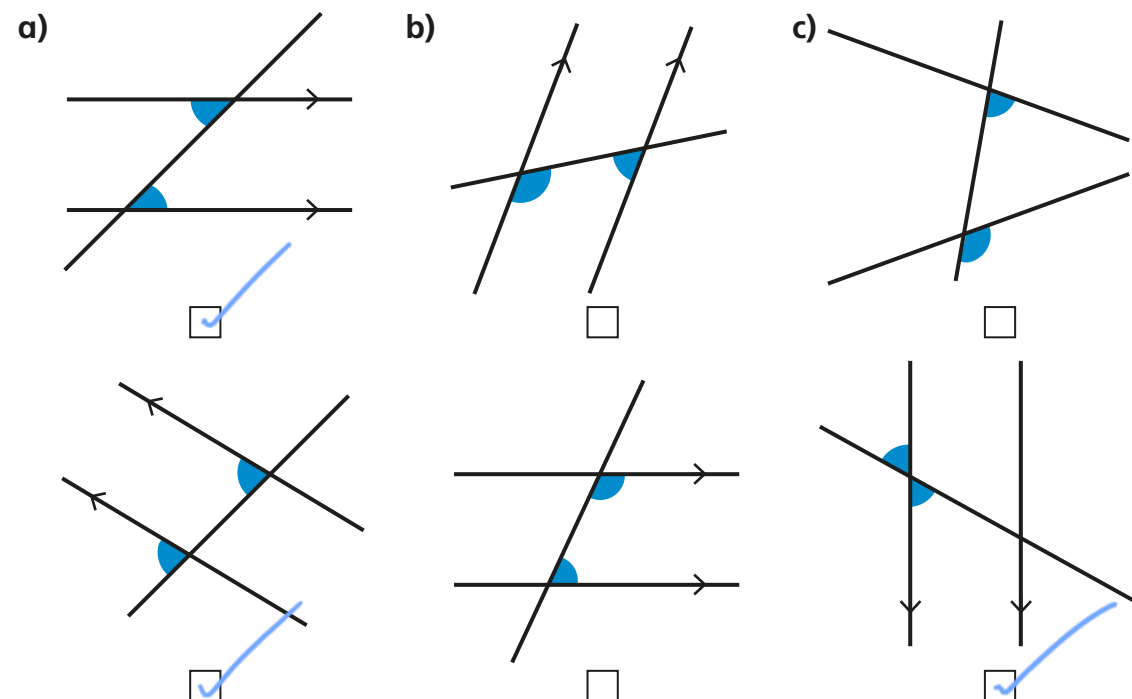


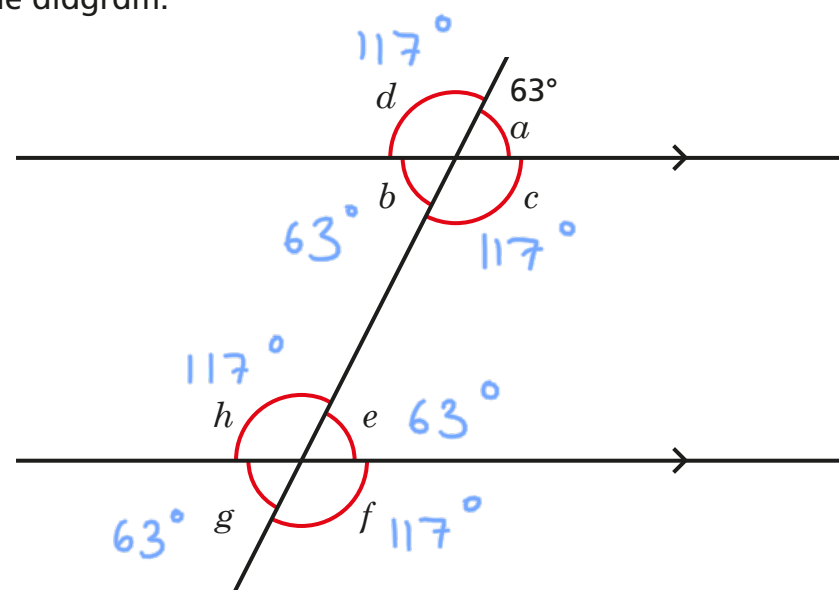
# Identify and calculate with co-interior, alternate and corresponding angles

1 Which pairs of angles are equal? Tick your answers.



Discuss your answers with a partner.

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



b) Angles  $b$  and  $e$  are co-interior.

What is the sum of angles  $b$  and  $e$ ?

180°

c) Angles  $c$  and  $h$  are also co-interior.

What is the sum of angles  $c$  and  $h$ ?

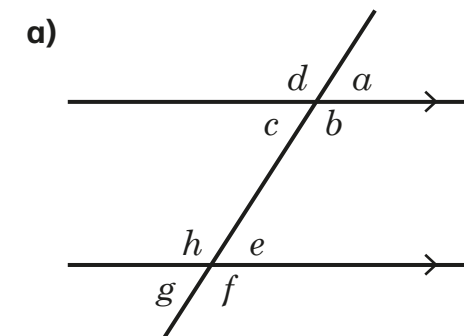
180°

d) What do you notice?

e) Complete the sentence.

Co-interior angles sum to 180°

3 Complete the sentences.

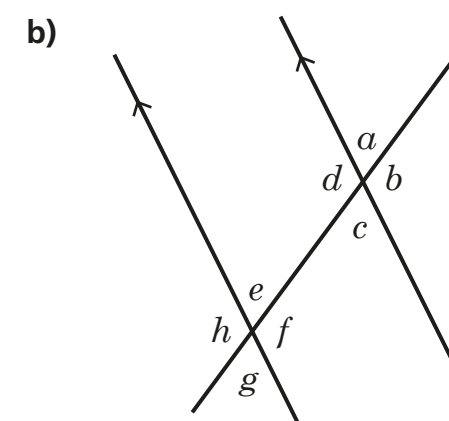


Angles  $c$  and  $h$  are co-interior.

Angles  $e$  and  $b$  are co-interior.

Angles  $h$  and  $c$  are co-interior.

Angles  $b$  and  $e$  are co-interior.



Angles  $e$  and  $a$  are corresponding.

Angles  $e$  and  $d$  are co-interior.

Angles  $e$  and  $c$  are alternate.

Angles  $e$  and  $g$  are vertically opposite.

4 Mo has measured two angles.

a) Are line segments AB and

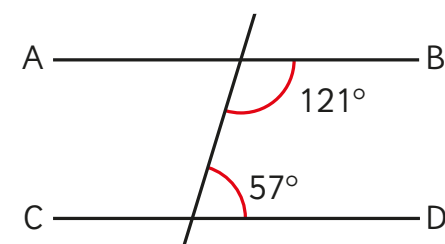
CD parallel? No

Explain your answer.

$$121 + 57 \neq 180$$

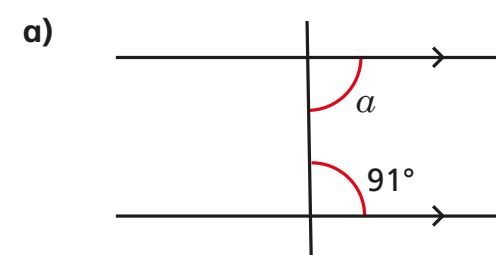
b) Eva says, "I think they could be parallel."

Why might Eva think this?

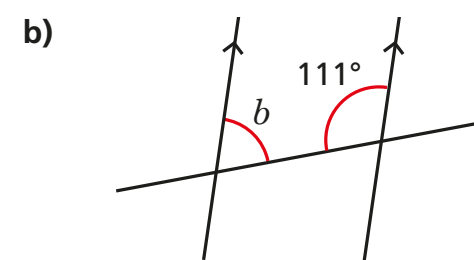


5 Work out the sizes of the unknown angles.

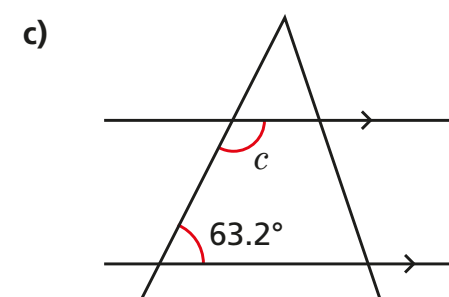
Give reasons for your answers.



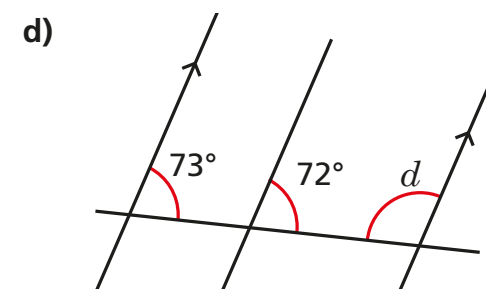
$a = 89^\circ$  because co-interior angles sum to  $180^\circ$ .



$b = 69^\circ$  because co-interior angles sum to  $180^\circ$ .



$c = 116.8^\circ$  because co-interior angles sum to  $180^\circ$ .

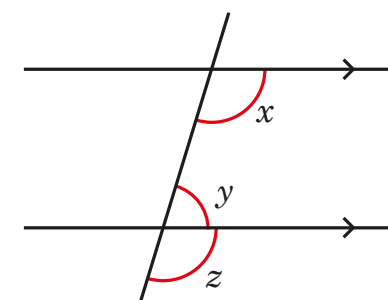


$d = 107^\circ$  because co-interior angles sum to  $180^\circ$ .

6

$$x : y = 2 : 1$$

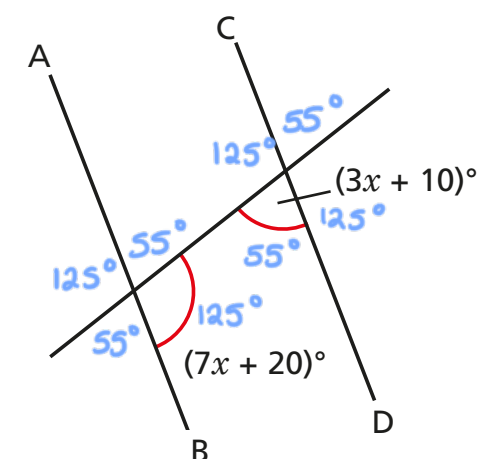
Work out the size of angle  $z$ .



$$z = 120^\circ$$

Discuss your reasoning with a partner.

7



a) Show that line segments AB and CD are not parallel when  $x = 12$ . Explain your answer.

$$7(12) + 20 + 3(12) + 10 = 150 (\neq 180)$$

b) Line segments AB and CD are parallel. Work out the sizes of the angles and label them on the diagram.

Discuss your method with a partner.

