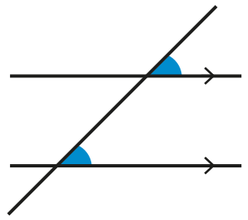
Identify and calculate with alternate and corresponding angles

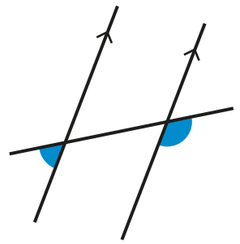
1 Are the pairs of angles alternate, corresponding or neither?

a)



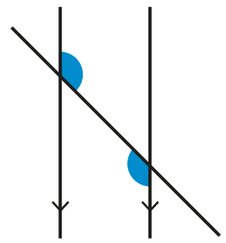
_____

b)



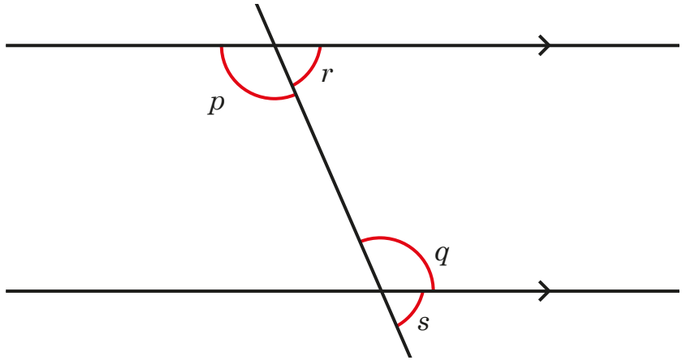
_____

c)



_____

2 Four angles are labelled on the diagram.



a) p and q are alternate angles. Measure the size of each angle and label them on the diagram.

What do you notice?

b) Complete the sentence.

Alternate angles are _____

c) r and s are corresponding angles. Measure the size of each angle and label them on the diagram.

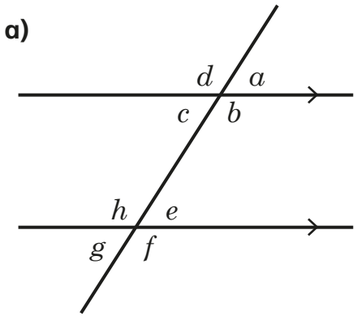
What do you notice?

d) Complete the sentence.

Corresponding angles are _____

3 Complete the sentences.

a)



Angle a is vertically opposite angle _____

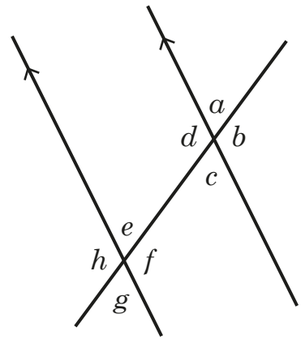
Angle a is corresponding to angle _____

Angle h is alternate to angle _____

Angle h is corresponding to angle _____

Angle h is vertically opposite angle _____

b)



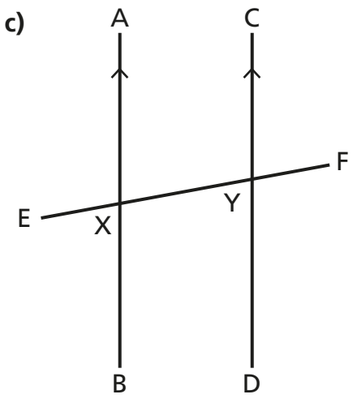
Angles d and _____ are adjacent angles on a straight line.

Angles d and _____ are alternate angles.

Angles _____ and d are corresponding angles.

Angles d and _____ are vertically opposite angles.

c)



∠AXF is alternate to _____

∠AXF is corresponding to _____

∠DYF is corresponding to _____

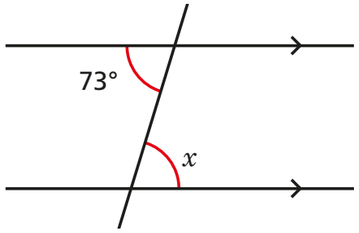
∠DYF is vertically opposite to _____

∠AXF and _____ are adjacent angles on a straight line.

4 Work out the sizes of the unknown angles.

Give reasons for your answers.

a)

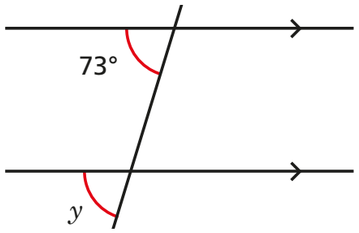


$x =$ ☐ because _____

_____

_____

b)

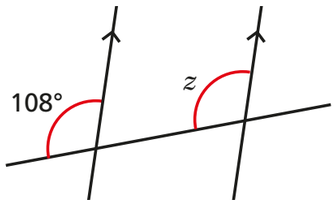


$y =$ ☐ because _____

_____

_____

c)

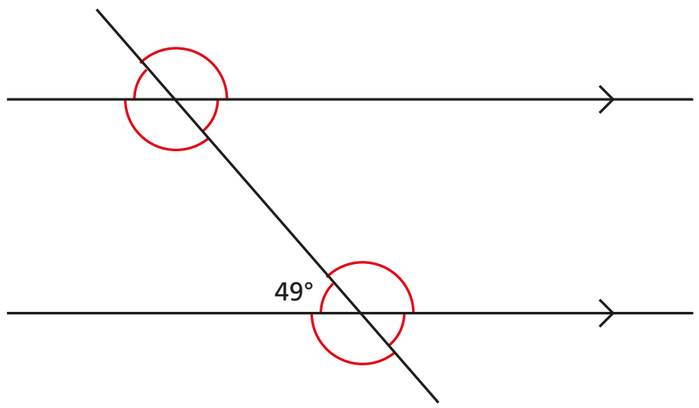


$z =$ ☐ because _____

_____

_____

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

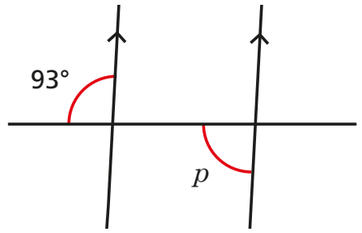


Compare your thinking with a partner.

Did you work them out the same way?

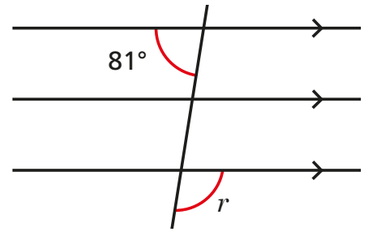
6 Work out the sizes of the unknown angles.

a)



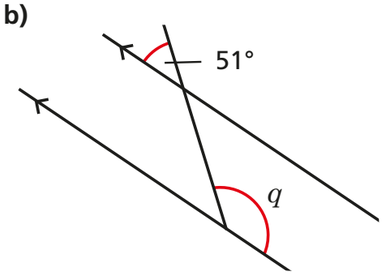
$p =$ ☐

c)



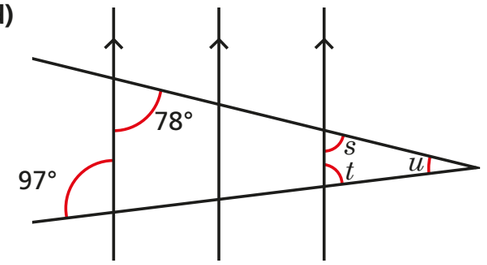
$r =$ ☐

b)



$q =$ ☐

d)

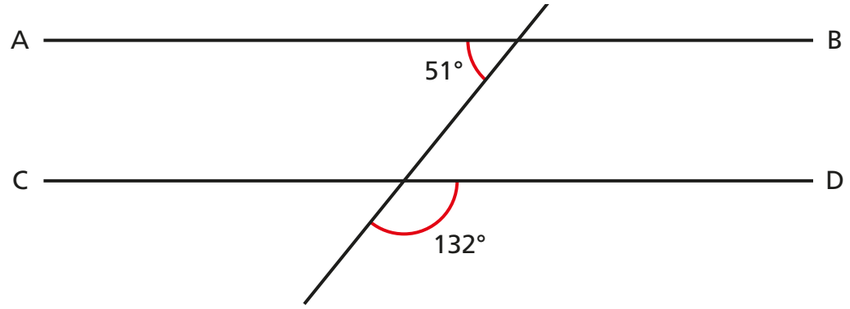


$s =$ ☐ $u =$ ☐

$t =$ ☐

Discuss your reasons with a partner.

7



Are line segments AB and CD parallel? _____

Explain your answer.

_____

_____