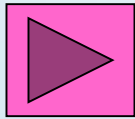
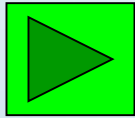


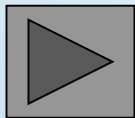
# Angles



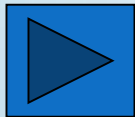
Revising Basic Angles



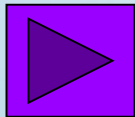
Naming Angles



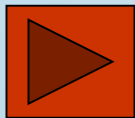
Calculating Missing angles



Angles in a Triangle

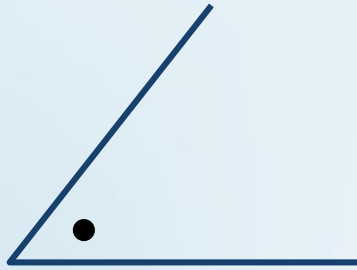


Corresponding Angles



Alternate Angles

# Type of Angles



Acute  
less than  $90^\circ$



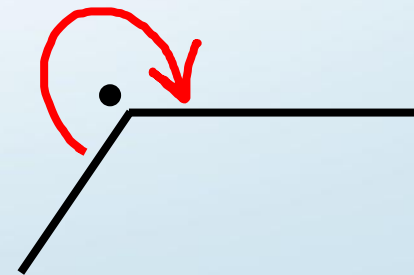
Horizontal  
Right - Angle  
exactly  $90^\circ$



Obtuse  
Between  $90^\circ - 180^\circ$



Straight Line Angle  
exactly  $180^\circ$



reflex  
over  $180^\circ$  less than  $360^\circ$

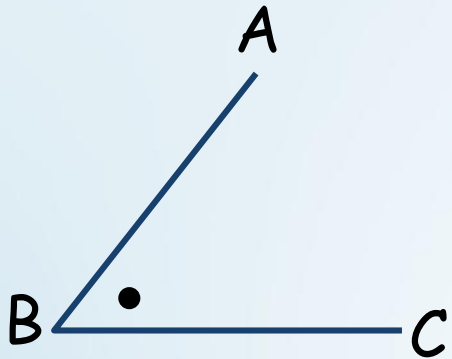
# QUESTION TIME!



The angle highlighted is:

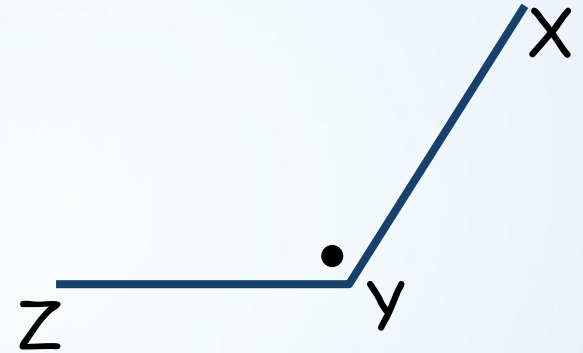
- A Acute
- B Right Angled
- C Obtuse**
- D Straight
- E Reflex

# Naming Angles



Type of angle is acute

Name of angle is  $\angle ABC$   
Or  $\angle CBA$



Type of angle is obtuse

Name of angle is  $\angle ZYX$   
Or  $\angle XYZ$

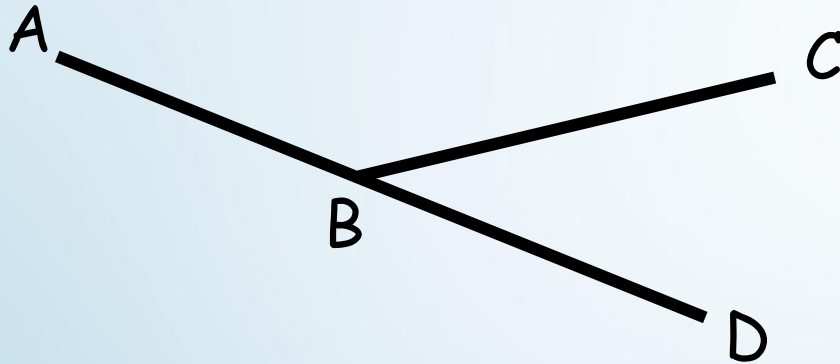
MIDDLE LETTER IS ALWAYS THE VERTEX

ALWAYS 3 CAPITAL LETTERS

# Examples

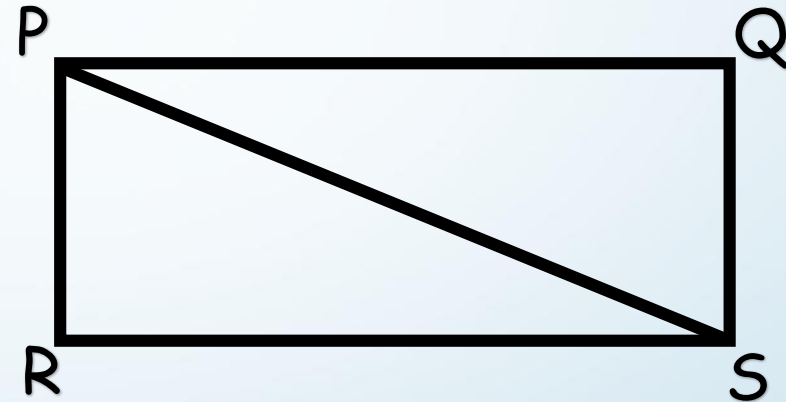
Name & state the type of angle for each shape below:-

1.



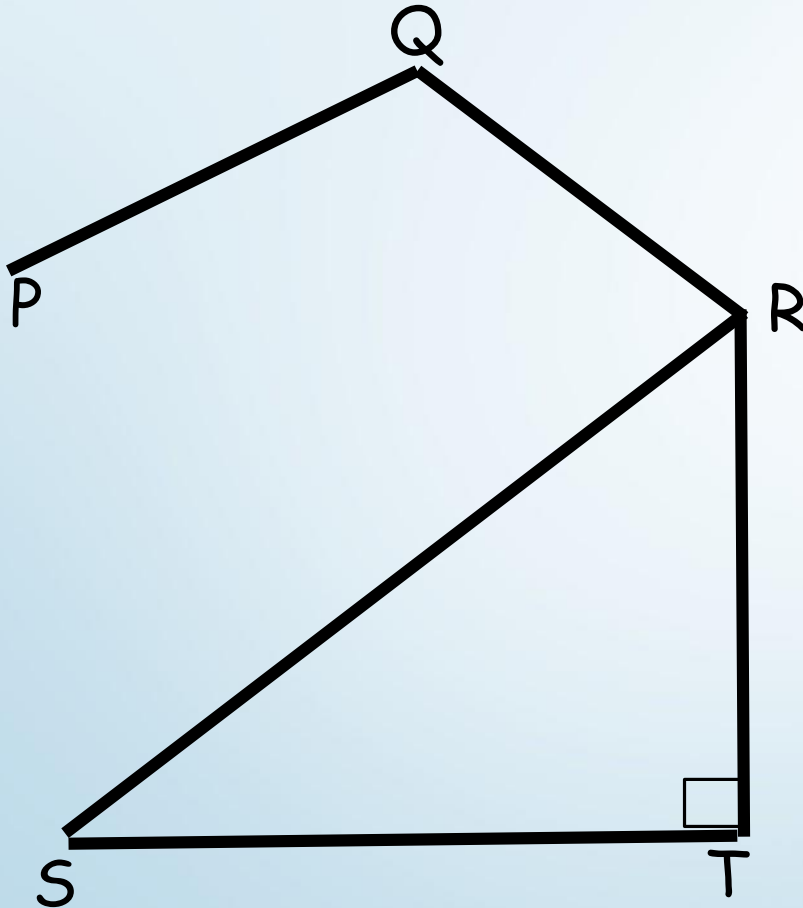
- $\angle ABC$  is obtuse
- $\angle CBD$  is acute
- $\angle ABD$  is straight

2.



- $\angle PQS$  is right angled
- $\angle PRS$  is right angled
- $\angle PSR$  is acute
- $\angle RPS$  is acute
- $\angle PSQ$  is acute
- $\angle QPS$  is acute

# QUESTION TIME!



Which Statement is FALSE?

A  $\angle PQR$  is Obtuse

B  $\angle QRS$  is Obtuse

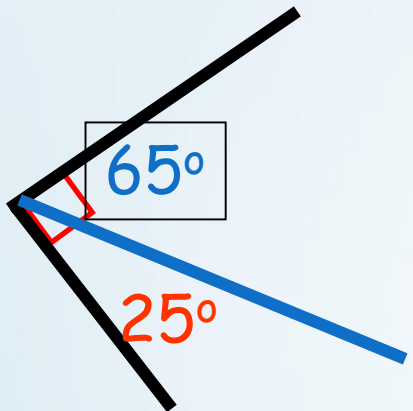
C  $\angle STR$  is Right Angled

D  $\angle RST$  is Acute

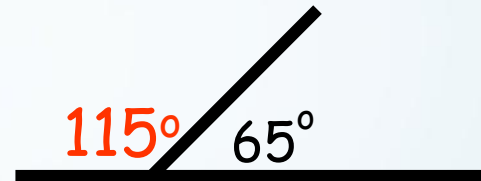
E  $\angle SRT$  is Acute

# Calculate Missing Angles

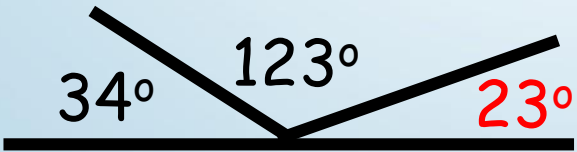
1.



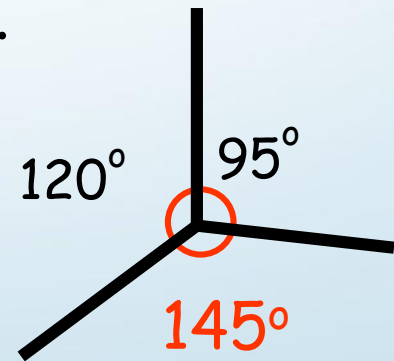
2.



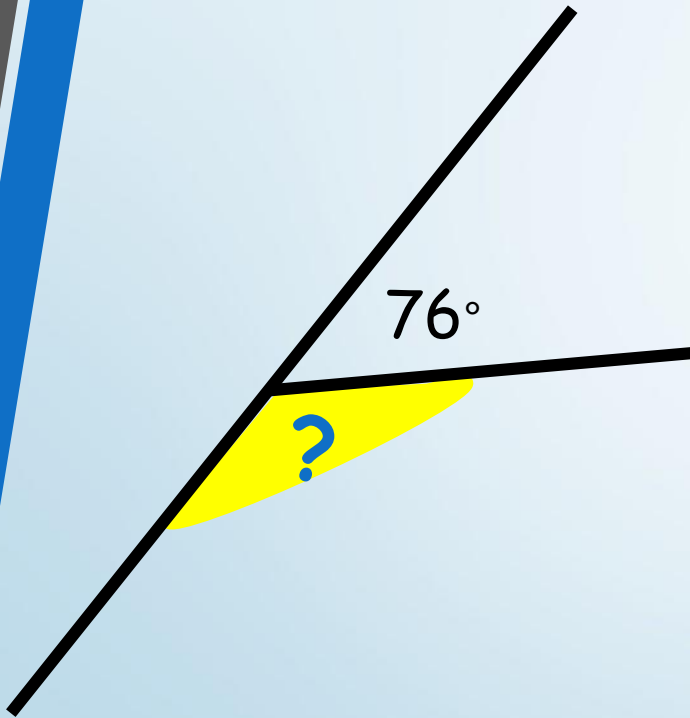
3.



4.



# QUESTION TIME!



Calculate the missing angle.

A  $256^\circ$

B  $166^\circ$

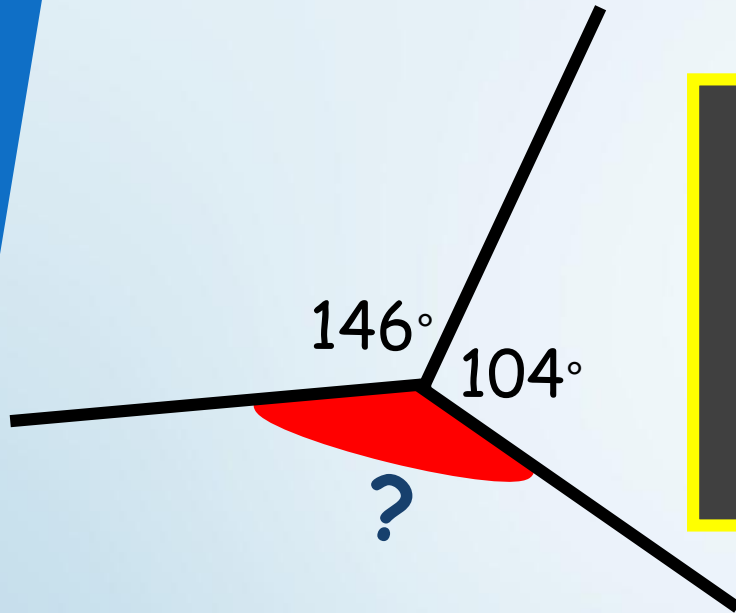
C  $104^\circ$

D  $76^\circ$

E  $14^\circ$

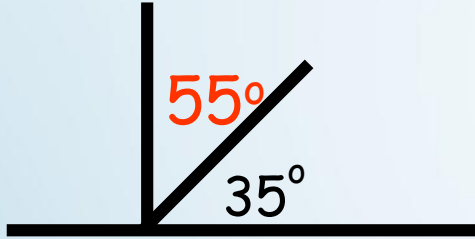


# QUESTION TIME!

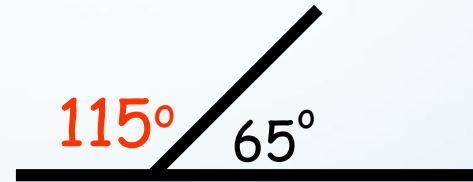


The missing angle is  $110^\circ$   
**TRUE** or FALSE?

# Related Angles



Two angles making a right angle add to  $90^\circ$   
(Complementary angles)



Two angles making a straight line add to  $180^\circ$   
(Supplementary angles)

# QUESTION TIME!

Calculate the supplement of  $163^\circ$ .

A  $13^\circ$

B  $17^\circ$

C  $73^\circ$

D  $197^\circ$

E  $343^\circ$

# QUESTION TIME!

Calculate the complement of  $30^\circ$ .

A  $150^\circ$

B  $120^\circ$

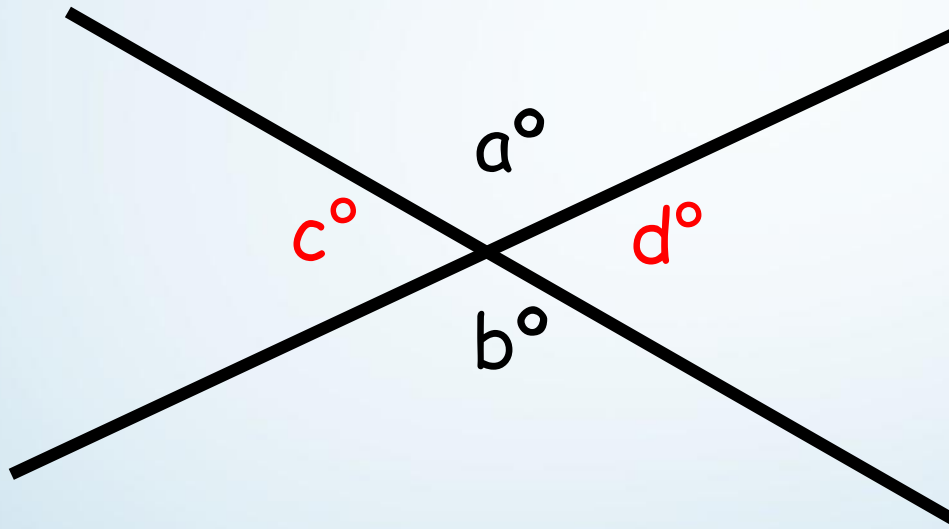
C  $90^\circ$

D  $60^\circ$

E  $30^\circ$

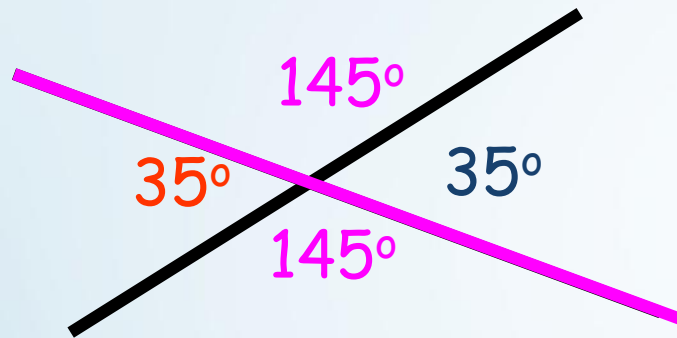
Opposite Angles are equal.

$$a=b$$
$$c=d$$

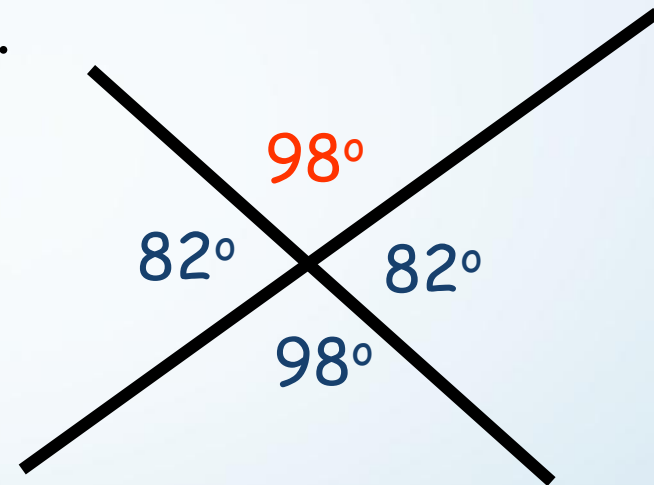


# Calculate Missing Angles

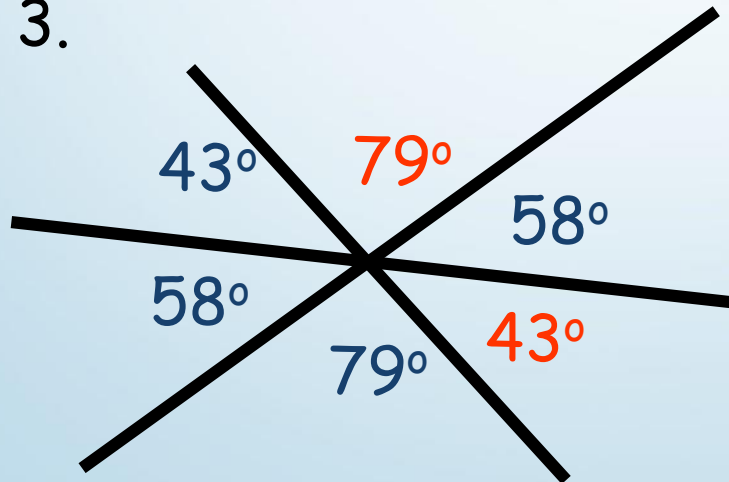
1.



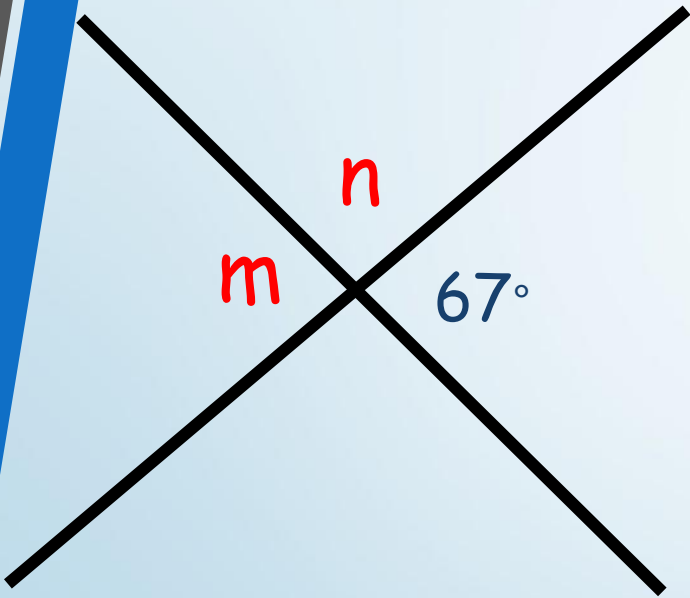
2.



3.



# QUESTION TIME!



Calculate angles  $m$  &  $n$

A  $m=67^\circ$  &  $n=67^\circ$

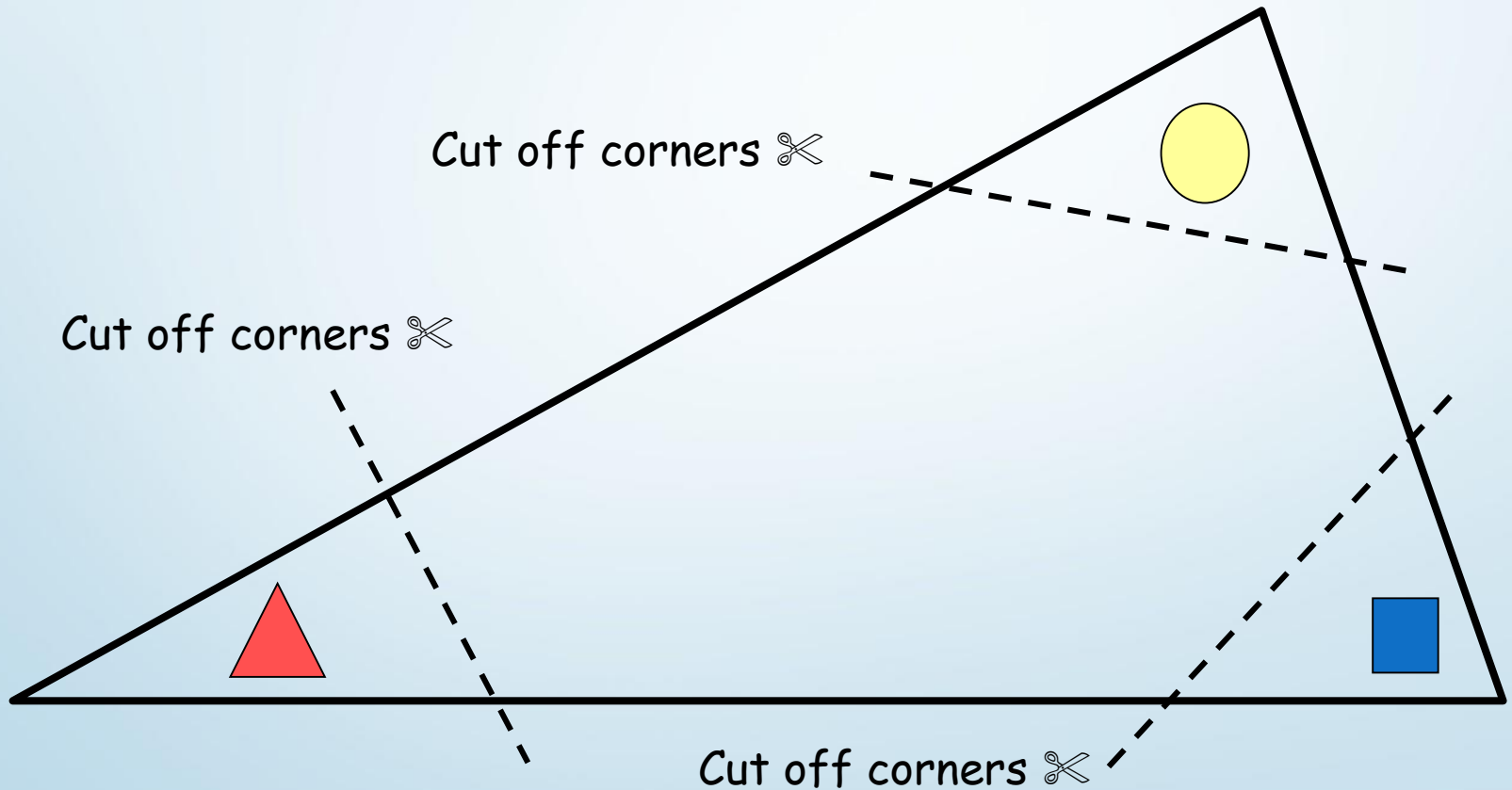
B  $m=113^\circ$  &  $n=67^\circ$

C  $m=67^\circ$  &  $n=113^\circ$

D  $m=67^\circ$  &  $n=127^\circ$

E  $m=127^\circ$  &  $n=67^\circ$

# To determine the angle sum of any Triangle







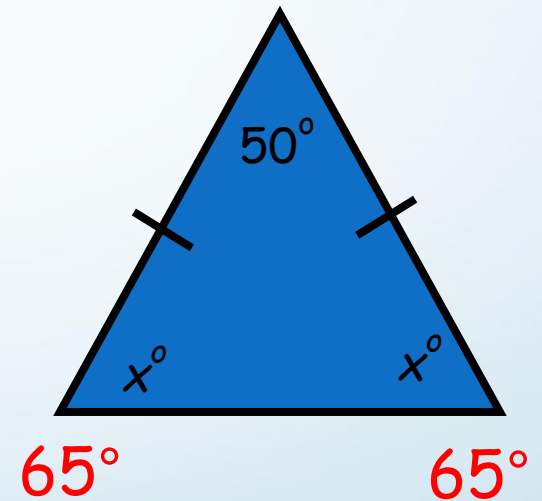
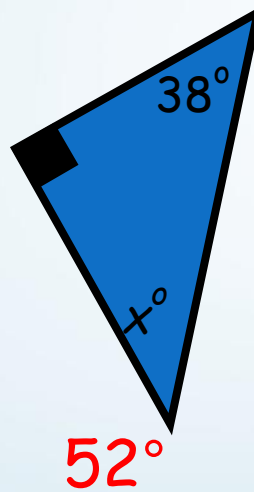
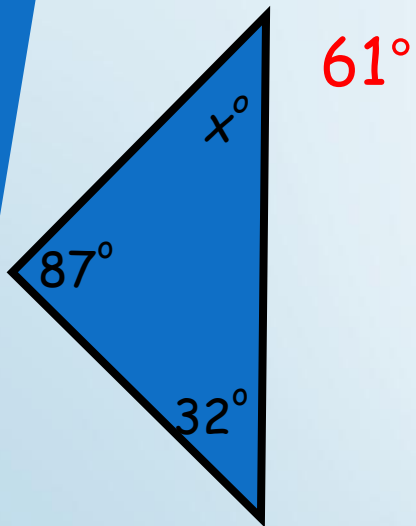
All angles in a triangle  
add up to  $180^\circ$



$180^\circ$

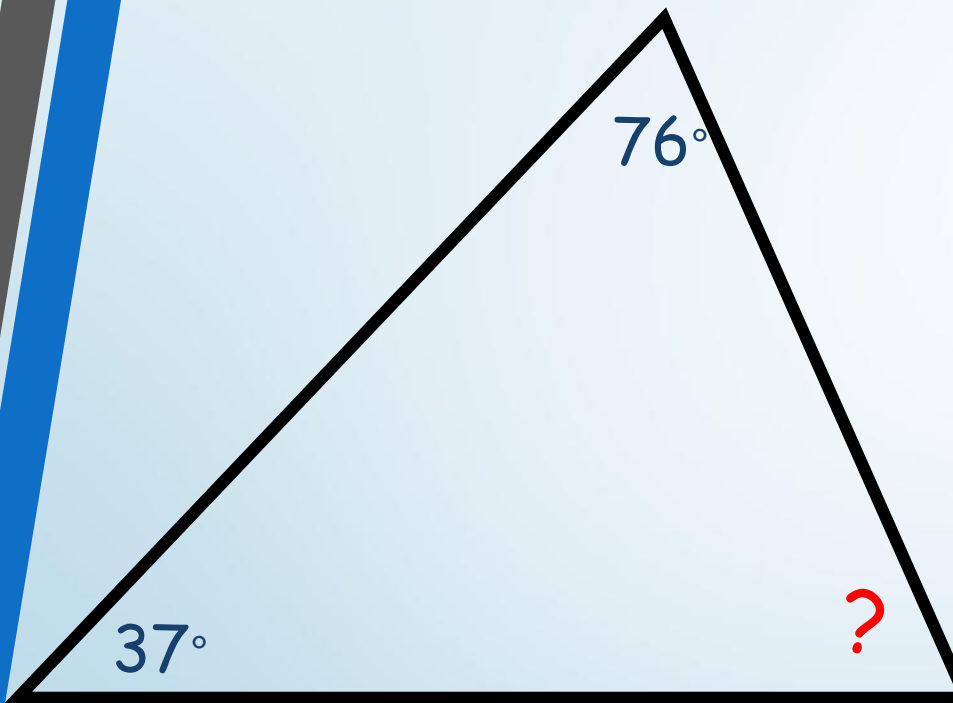
# Calculating Missing Angles

Copy out the following triangles and find the missing angles.



Remember all the angles add up to  $180^\circ$

# QUESTION TIME!



Calculate the missing angle

A  $67^\circ$

B  $76^\circ$

C  $77^\circ$

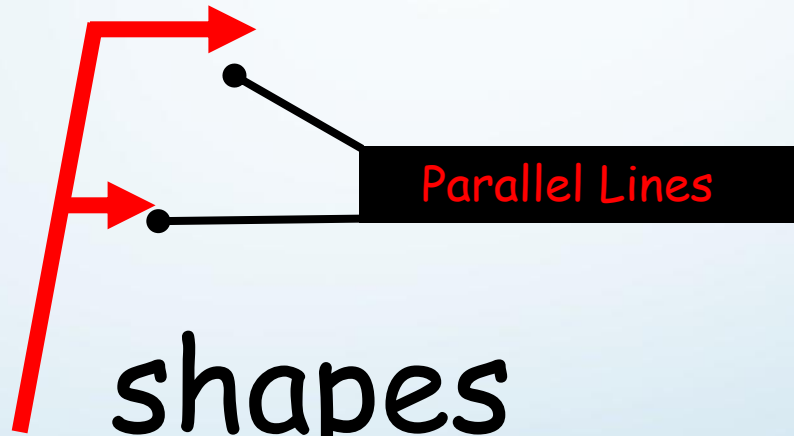
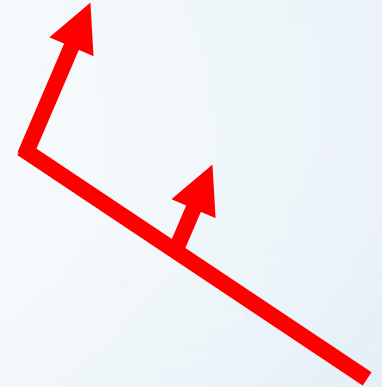
D  $113^\circ$

E  $114^\circ$

F  $247^\circ$

# Corresponding Angles

look for

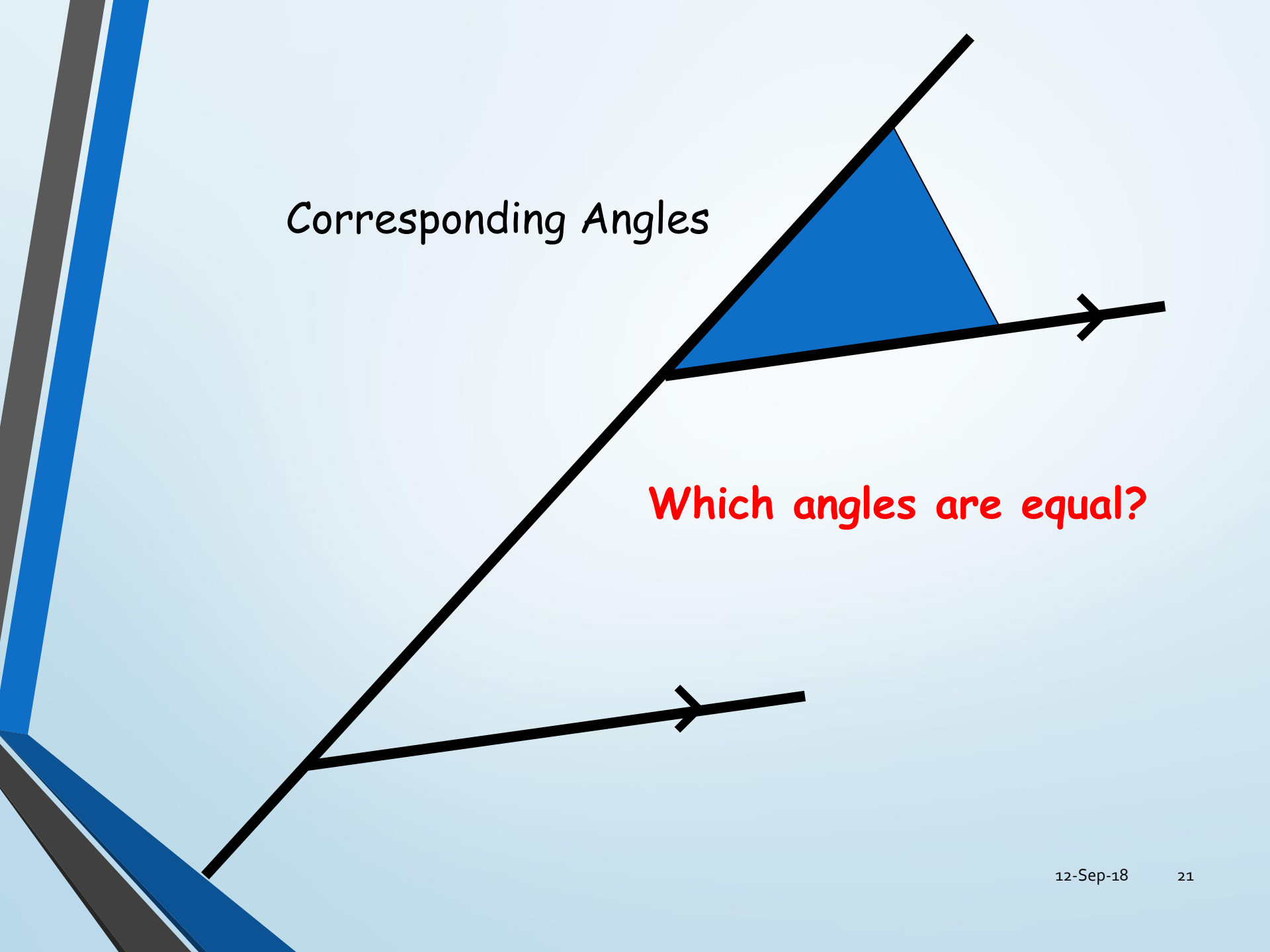


shapes



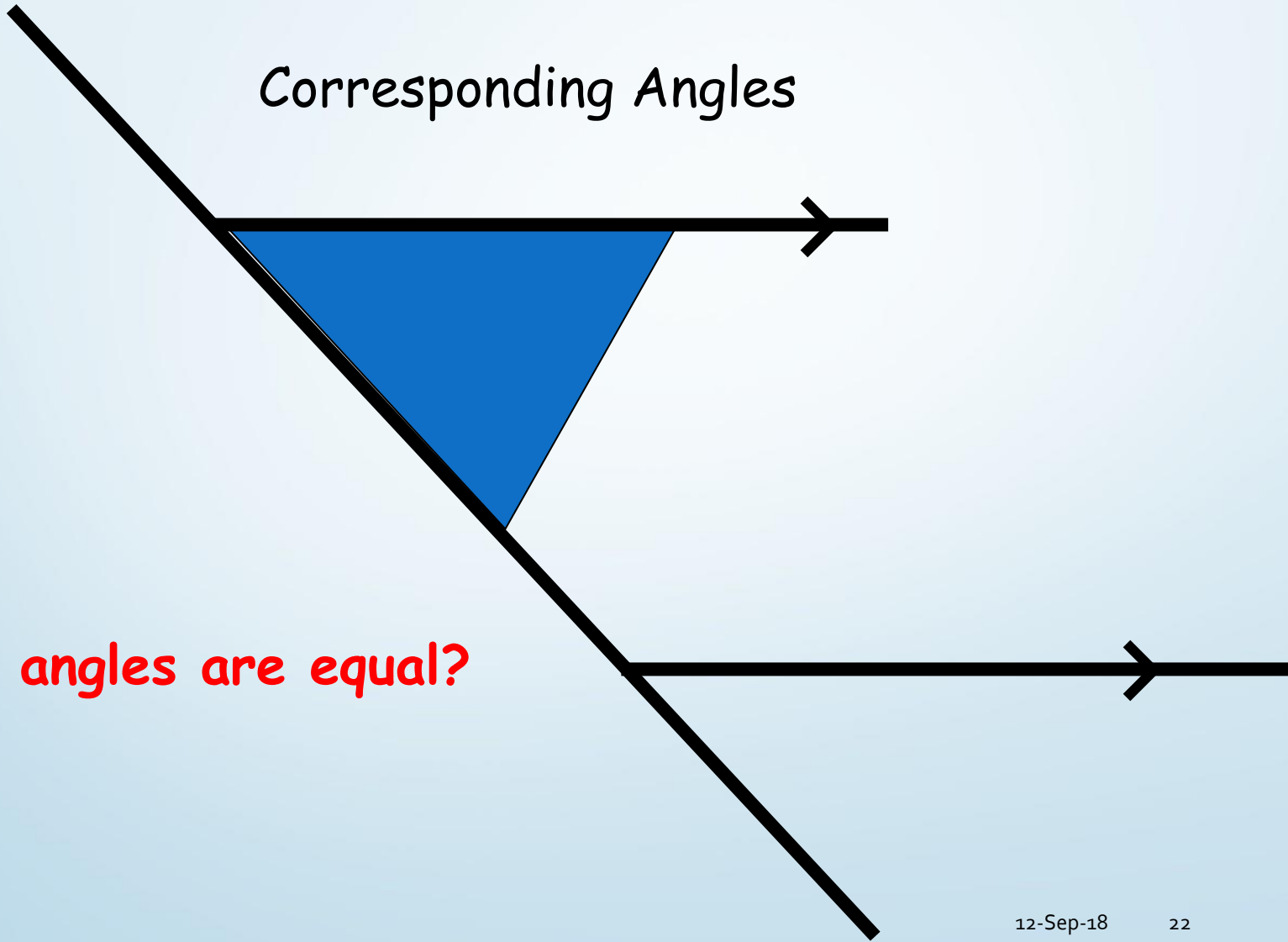
Corresponding Angles

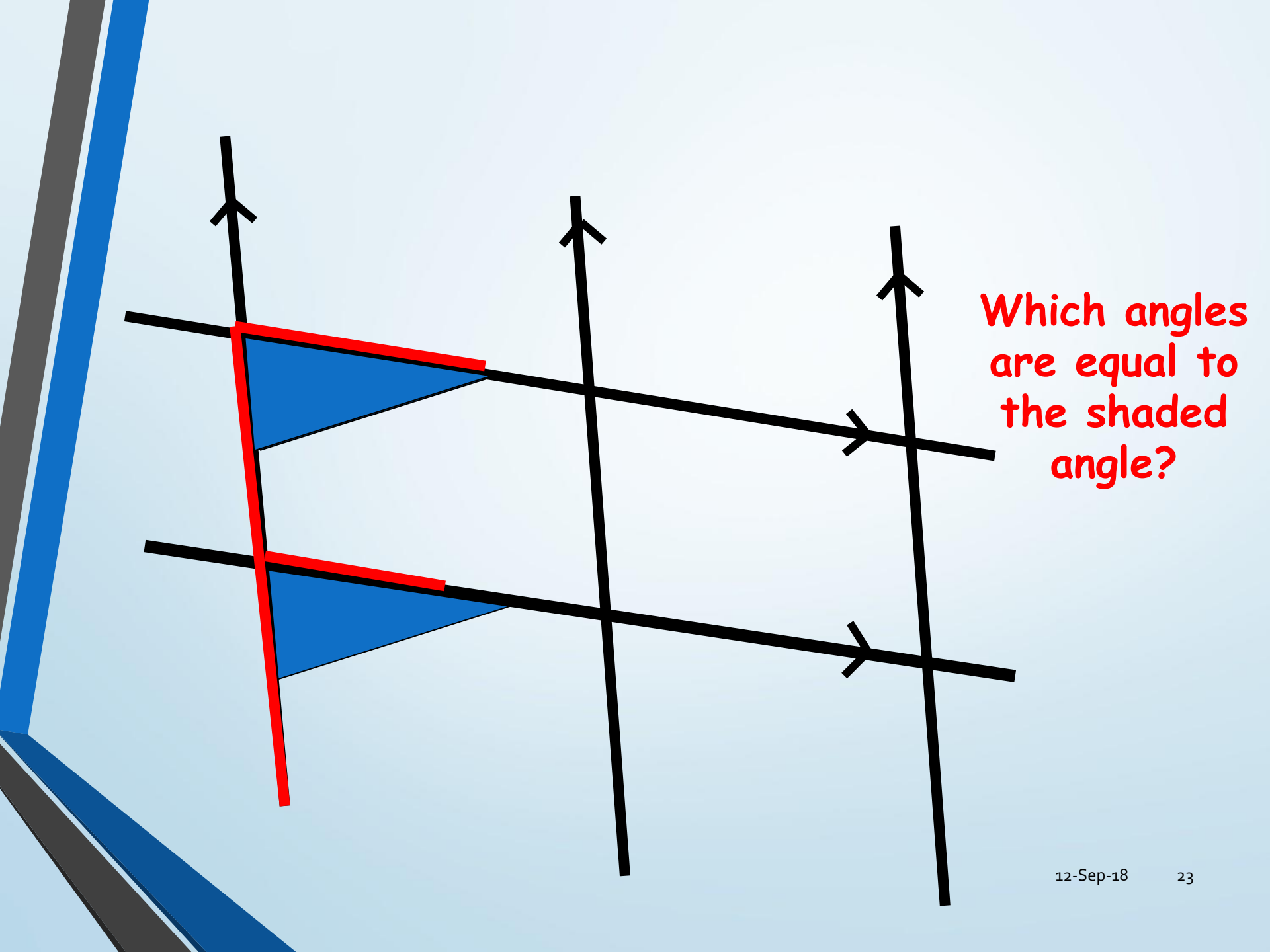
Which angles are equal?



## Corresponding Angles

Which angles are equal?

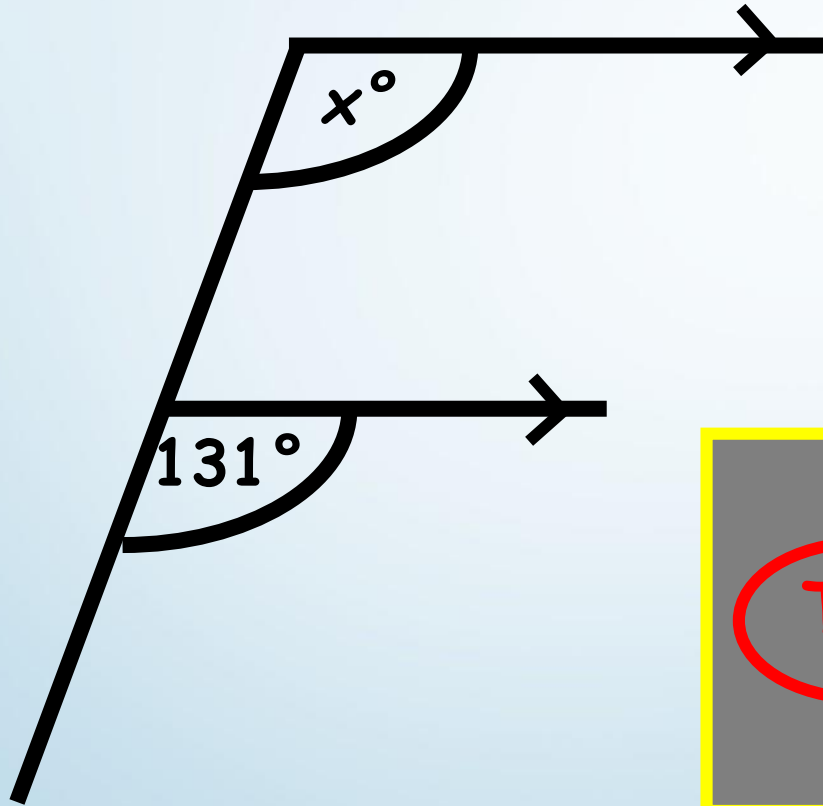




Which angles are equal to the shaded angle?

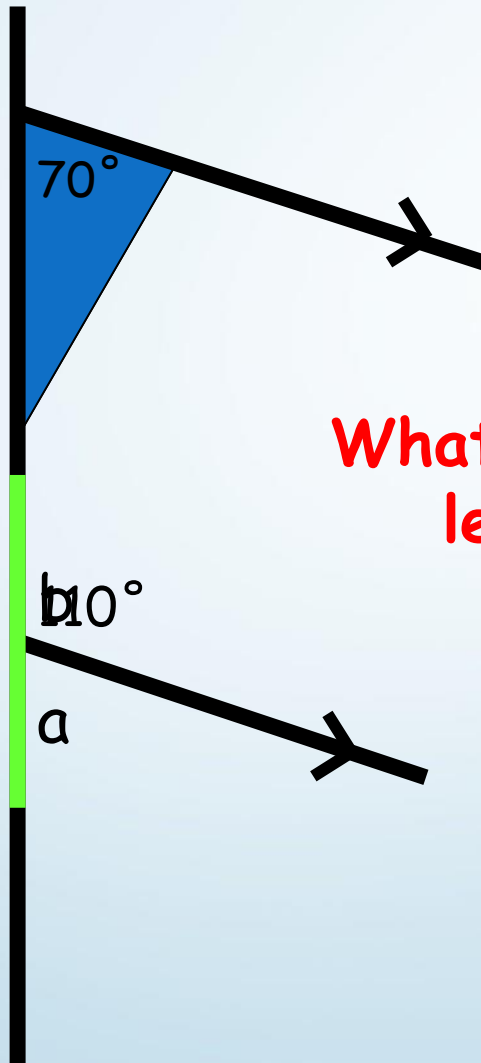
# QUESTION TIME!

The value of  $x$  is  $131^\circ$ .

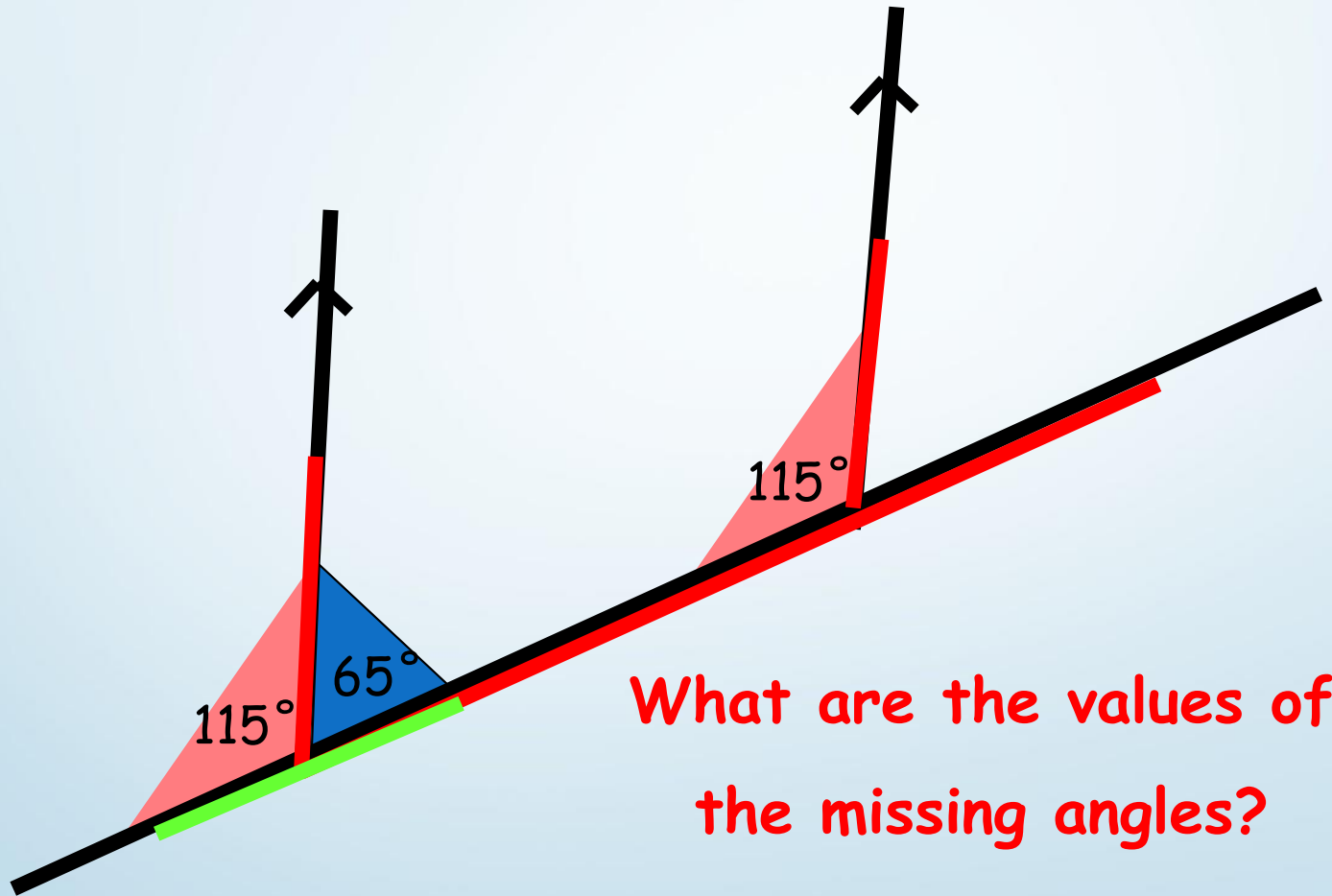


True or False?



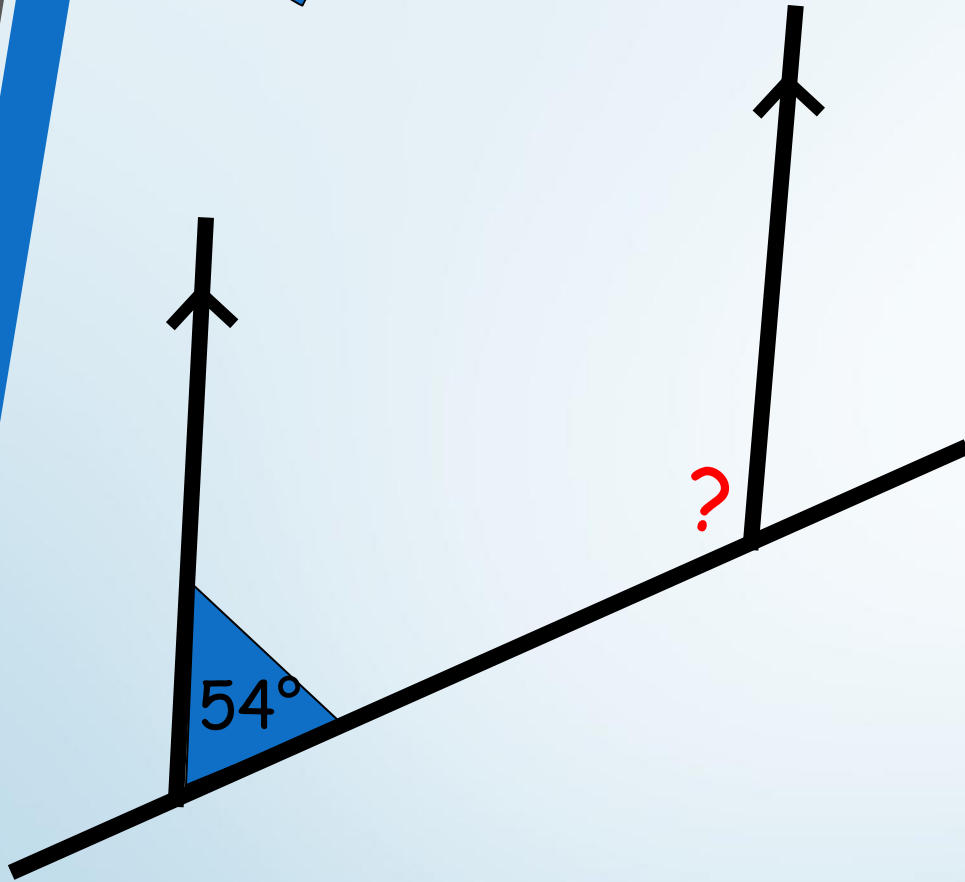


What are the values of letters a and b?



What are the values of the missing angles?

# QUESTION TIME!

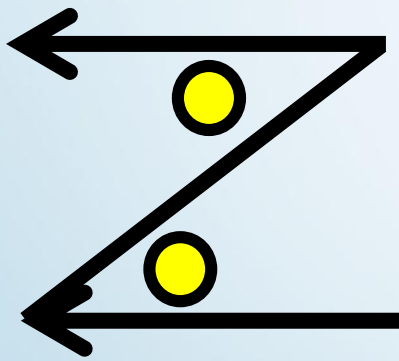


The angle marked is:-

- A  $180^\circ$
- B  $136^\circ$
- C  $126^\circ$**
- D  $124^\circ$
- E  $54^\circ$
- F  $34^\circ$

# Alternate Angles

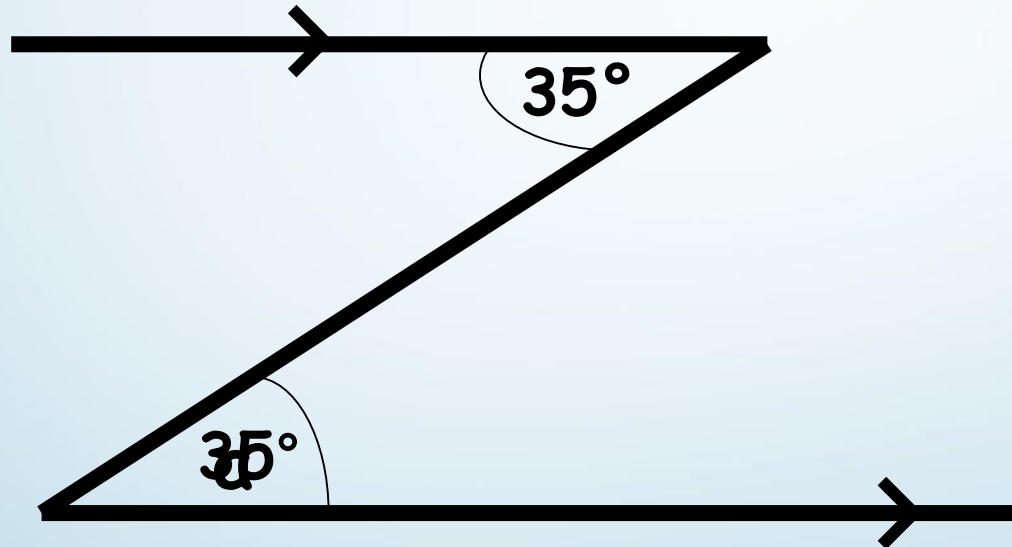
Look for

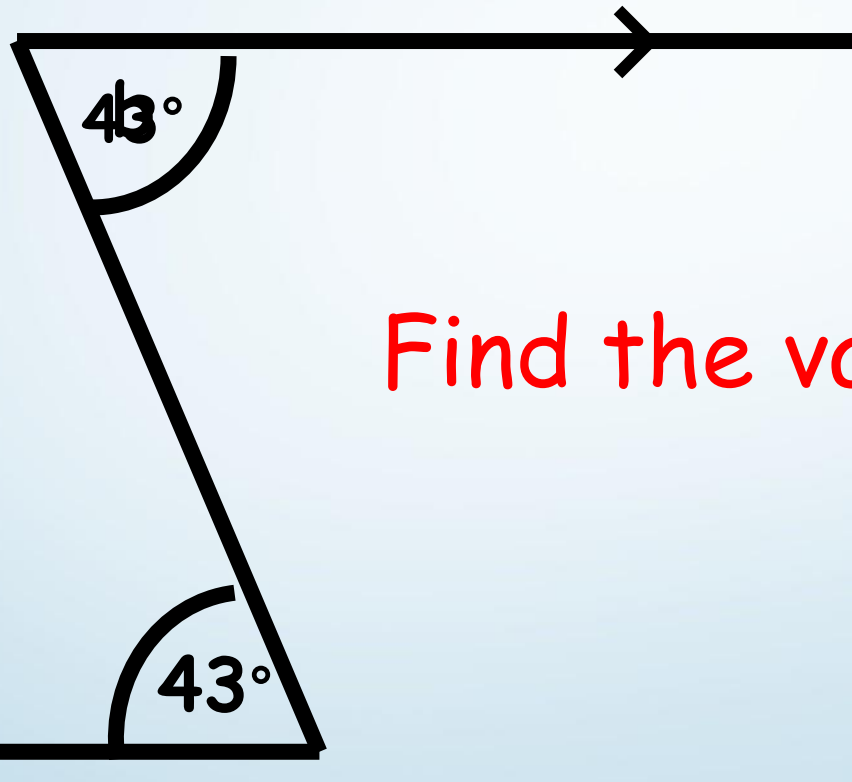


- Z shapes

● = equal angles

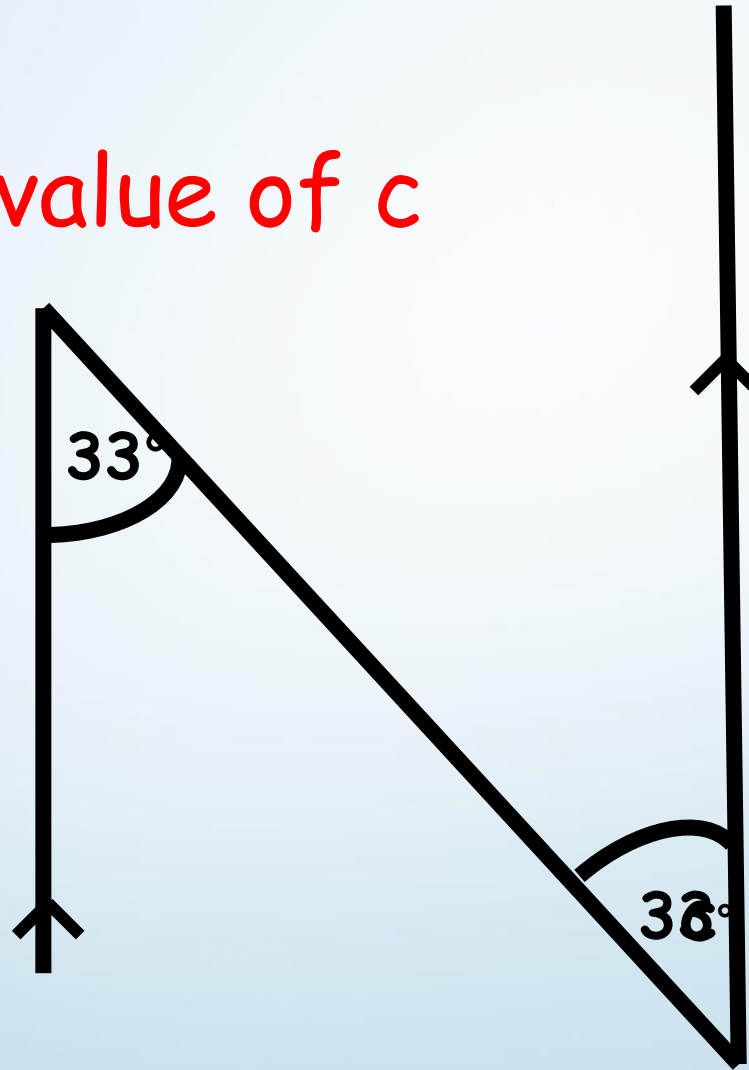
Find the value of  $a$ .





Find the value of  $b$ .

Find the value of  $c$



# QUESTION TIME!

Find the value of  $d$ .



A  $180^\circ$

B  $123^\circ$

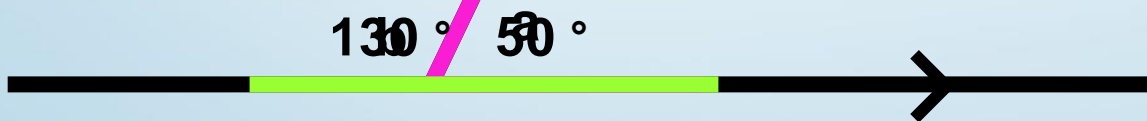
C  $190^\circ$

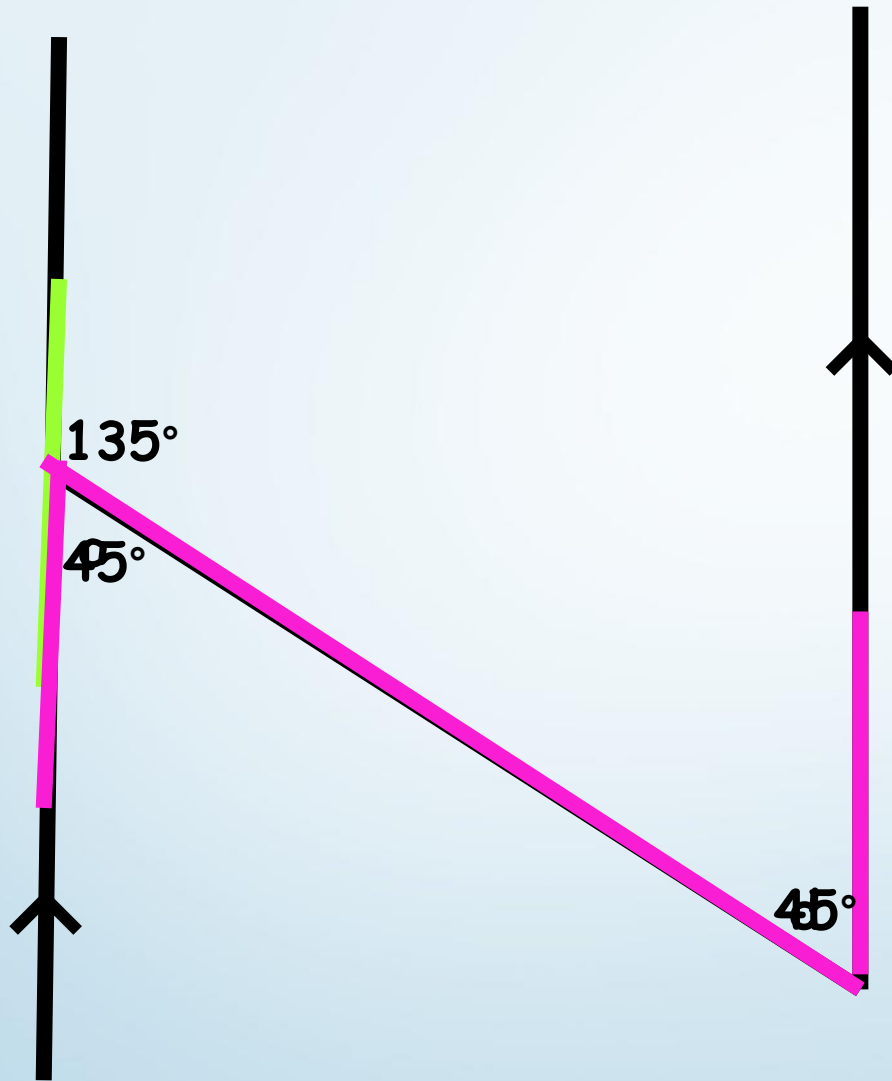
D  $57^\circ$





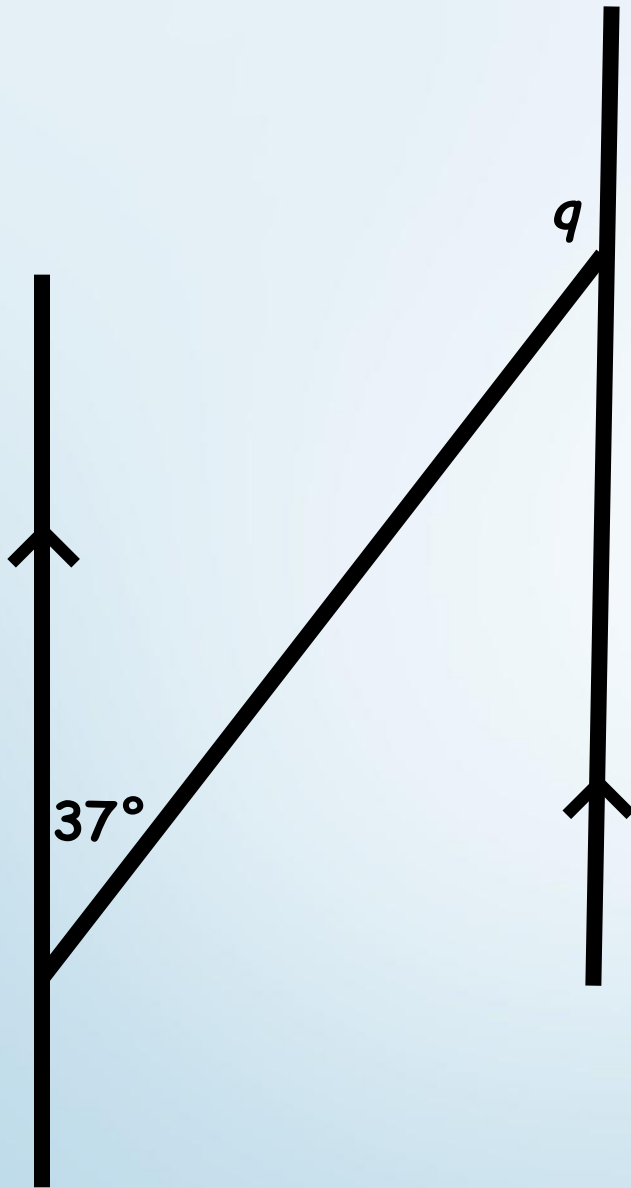
Find the value  
a and b





Find the value  
of a and b.

Find the value  
of  $q$



A  $37^\circ$

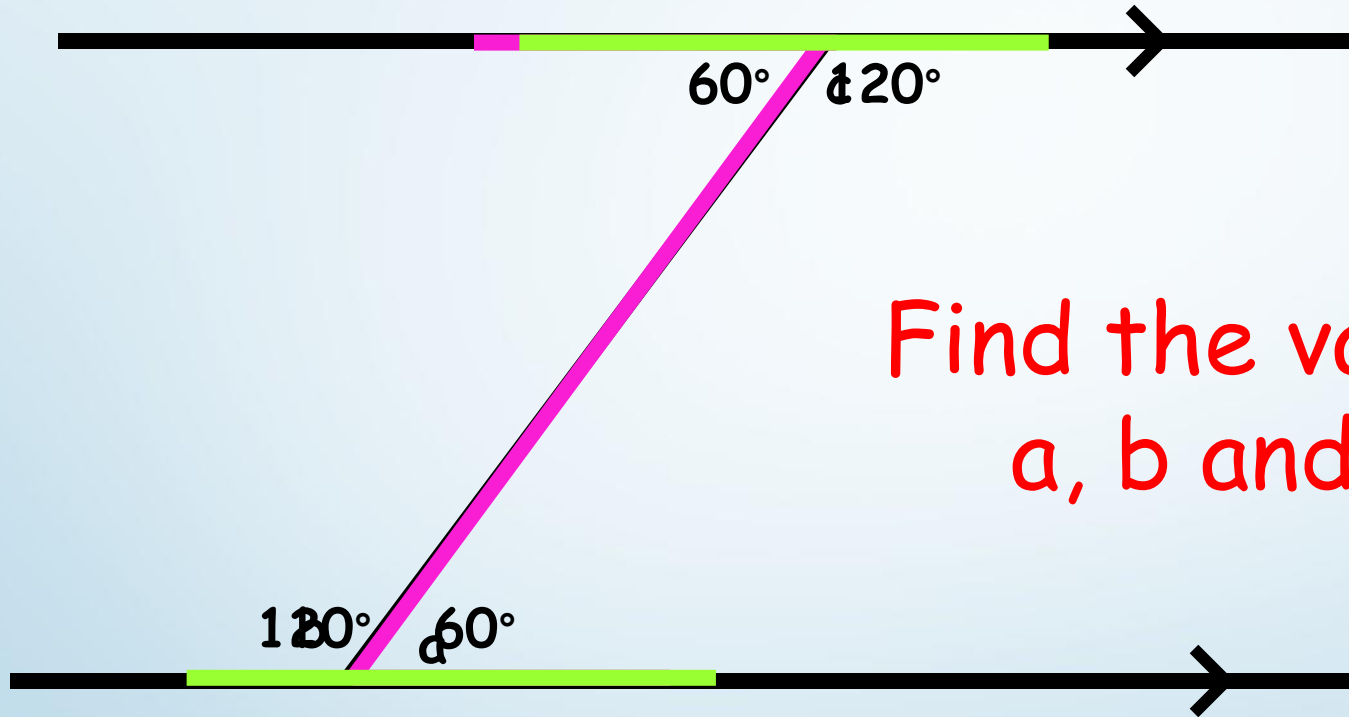
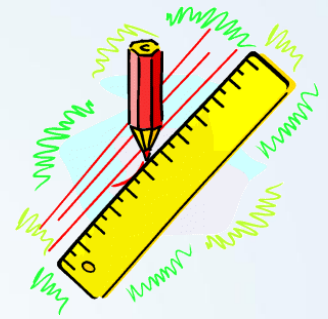
B  $53^\circ$

C  $143^\circ$

D  $153^\circ$

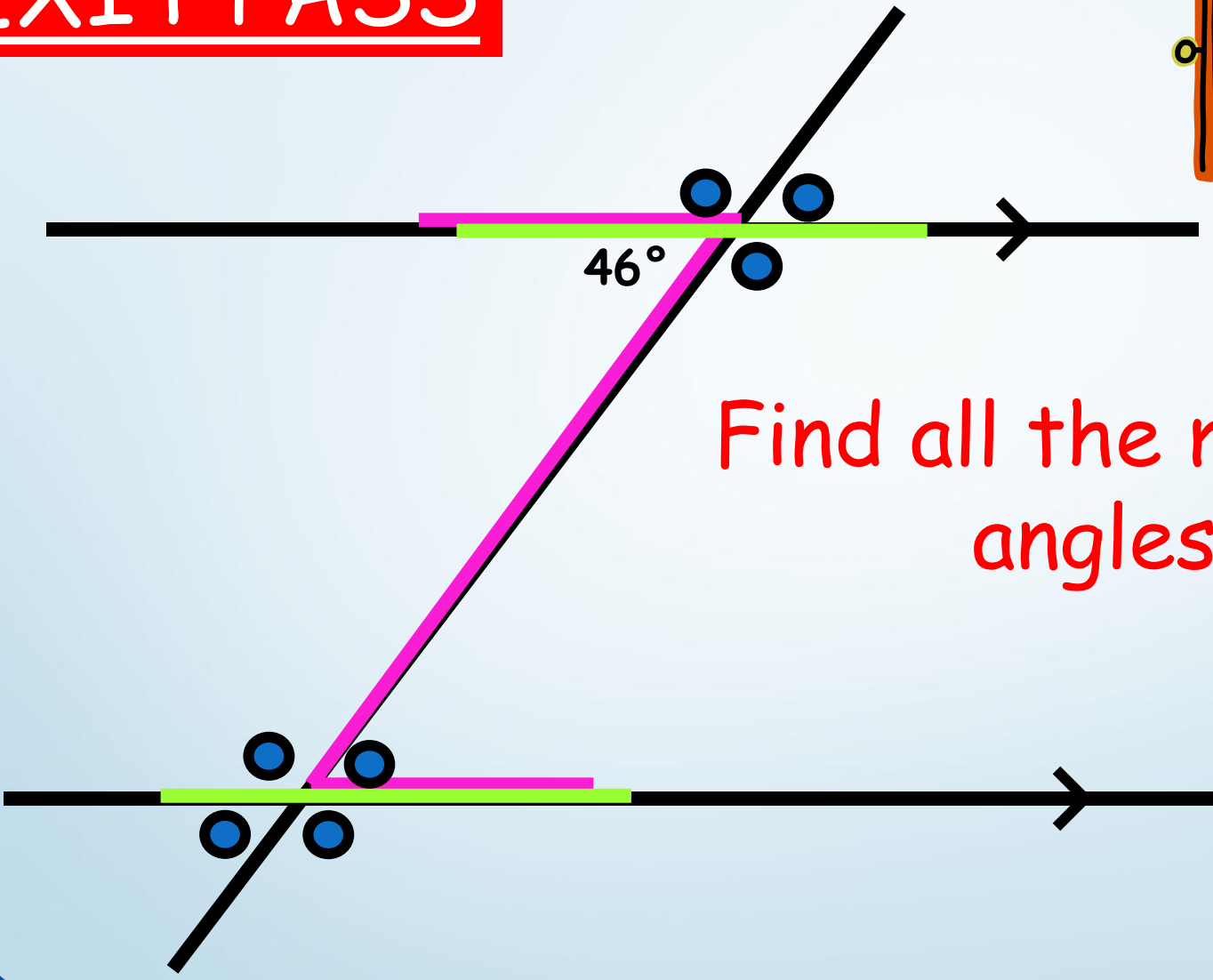
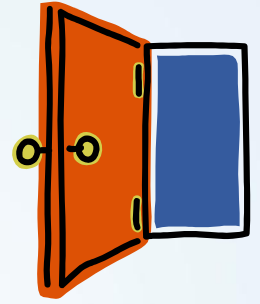
E  $180^\circ$

F  $223^\circ$



Find the values  
a, b and c.

# EXIT PASS



Find all the missing angles