



The National
Orthodox School
Shmaisani

Subject: Mathematics

Second Semester

Name:

Grade 6 CS

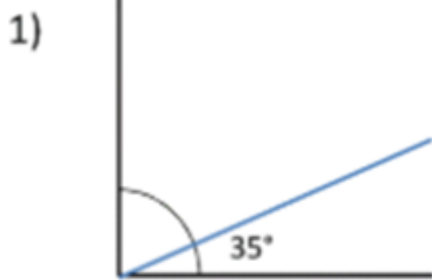
Unit (8): Gemoerty

Worksheet (4)

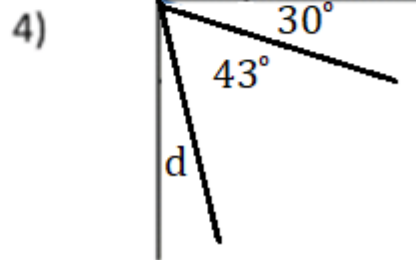
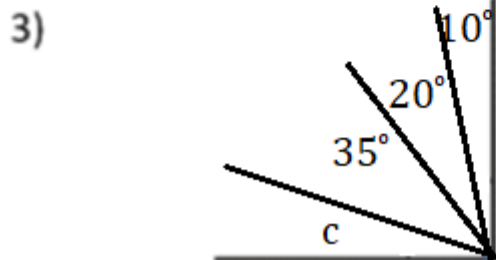
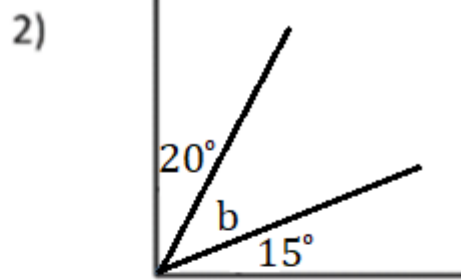
Angles to 90° (complementary angles)

Remember that the right angle is equal to 90°

Exercise (1): Work out the missing angles (the first one has been done for you)



$$90 - 35 = 55$$



Accredited by



Cambridge Assessment
International Education
Cambridge International School

edexcel

CIS
COUNCIL OF
INTERNATIONAL
SCHOOLS



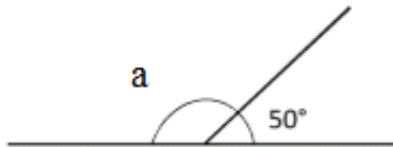
مُعْتَمَدَةٌ مِنْ

Angles on a straight line 180° (supplementary angles)

Remember that the straight angle is equal to 180°

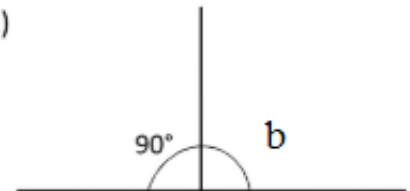
Exercise (2): Work out the missing angles (the first one has been done for you)

1)

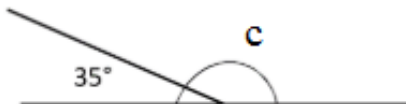


$$180 - 50 = 130$$

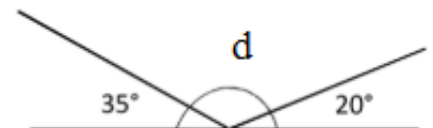
2)



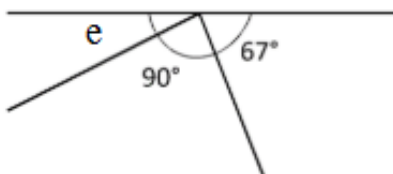
3)



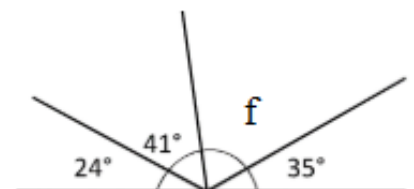
4)



5)



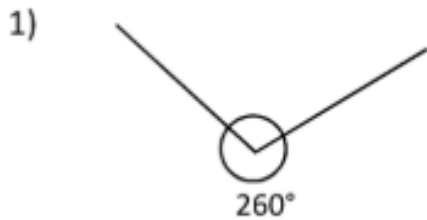
6)



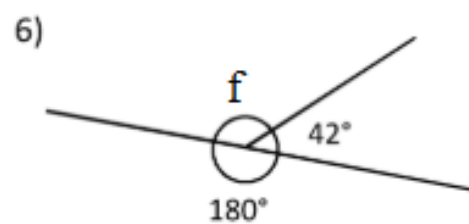
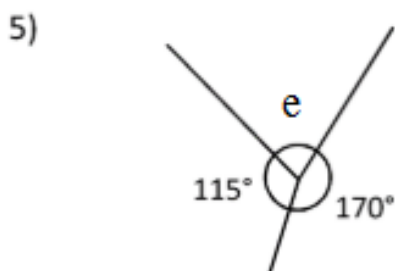
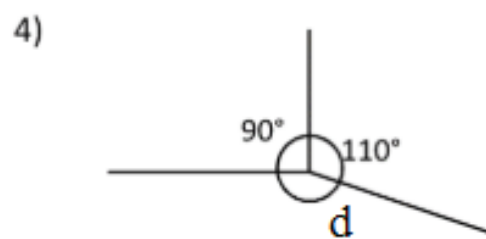
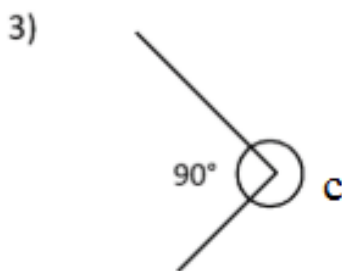
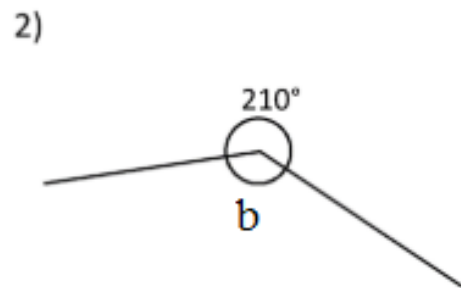
Angles around a point

Remember that the angles around the point add up to 360°

Exercise (3): Work out the missing angles (the first one has been done for you)



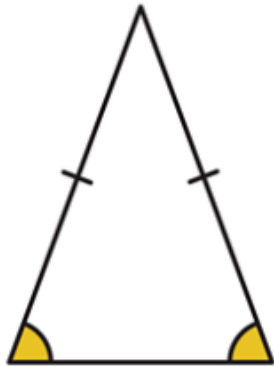
$$360 - 260 = 100$$



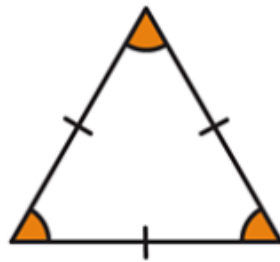
Angles in a triangle.

Remember that the angles in a triangle add up to 180°

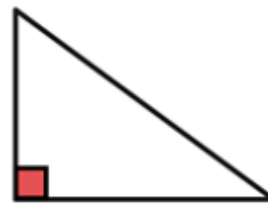
The types of triangles:



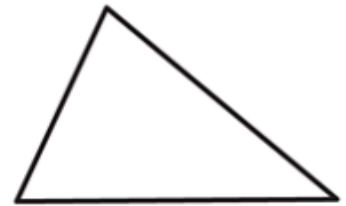
Isosceles



Equilateral



Right-angled

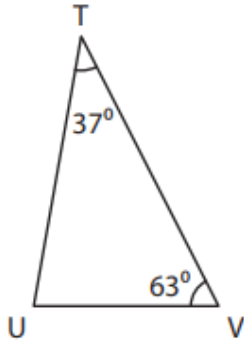


Scalene

- An **isosceles triangle** will have two angles the same size.
- In an **equilateral triangle**, all angles will be 60° .
- A **right-angled triangle** will have one angle that is 90° , which means the other two angles will have a total of 90° .
- A **scalene triangle** will have all angles of a different size.

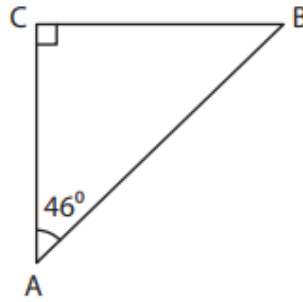
Exercise (4): Work out the missing angles.

1)



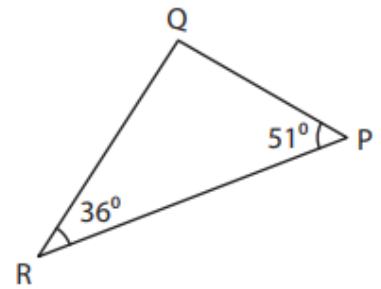
$m\angle U =$ _____

2)



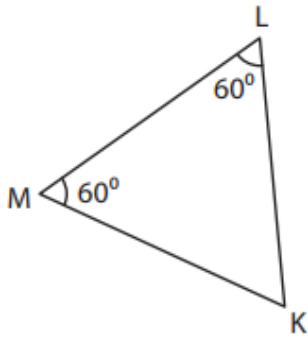
$m\angle B =$ _____

3)



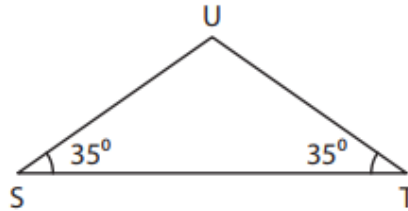
$m\angle Q =$ _____

4)



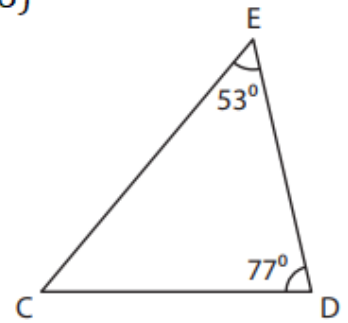
$m\angle K =$ _____

5)



$m\angle U =$ _____

6)



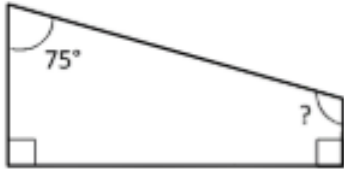
$m\angle C =$ _____

Angles in Quadrilaterals.

Remember that the angles in quadrilaterals add up to 360°

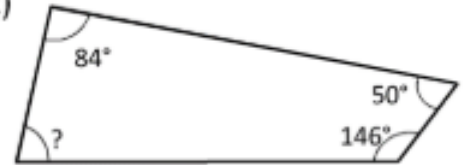
Exercise (5): Work out the missing angles (the first one has been done for you)

1)



$$75 + 90 + 90 = 255$$
$$360 - 255 = 105$$

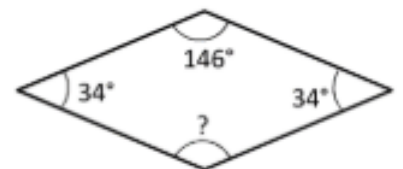
2)



3)



4)



5)

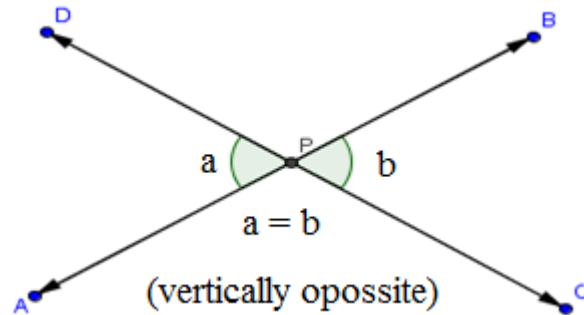


6)



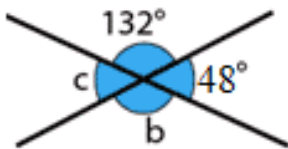
Vertically opposite angles.

Vertically opposite angles are the angles formed **opposite** each other when two lines intersect. Vertically opposite angles **are always equal.**



Exercise (6): Work out the missing angles (the first one has been done for you)

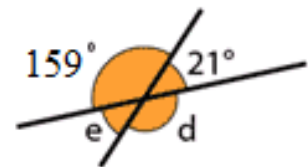
1)



$b = 132$ (vertically opposite)

$c =$

2)



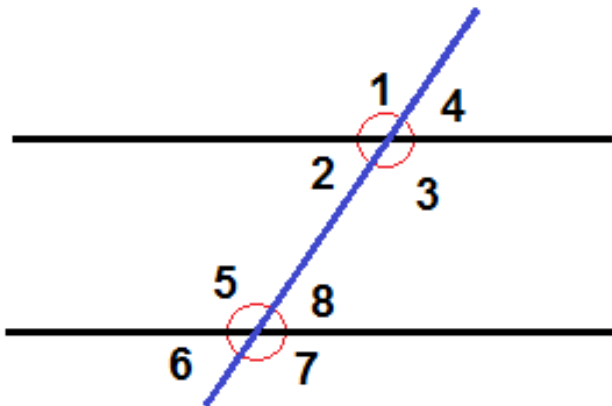
$e =$

$d =$

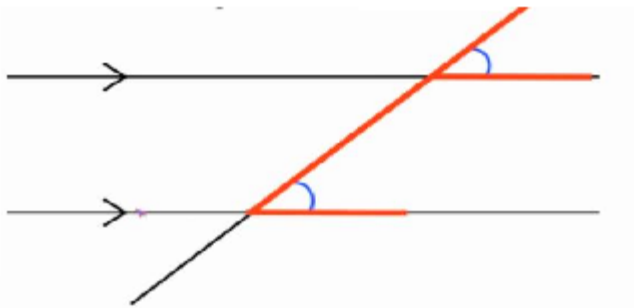
Corresponding and alternate angles

If we have **two parallel lines** and have a third line that crosses them as in the picture below - the crossing line is called a **transversal**

When a transversal intersects with two parallel lines eight angles are produced.

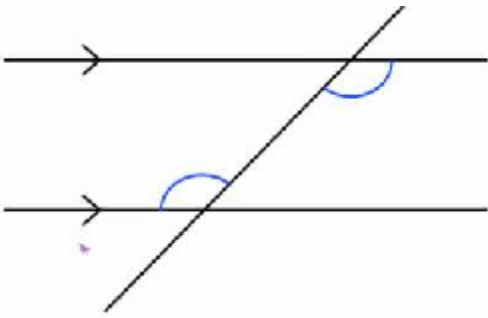


Corresponding angles.



When the angles are one **interior** and one **exterior** \Rightarrow the **same side**, then they are **equal** (corresponding)

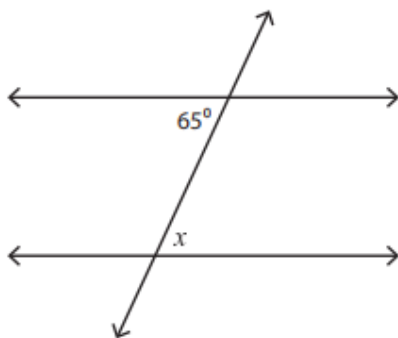
Alternate angles



When the angles are **both interior** and **opposite** to each other \Rightarrow they are **equal** (alternate)

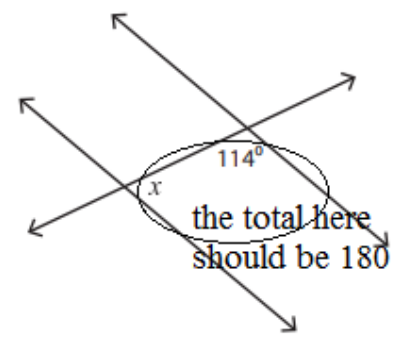
Exercise (7): Work out the missing angles (the first two have been done for you)

1)



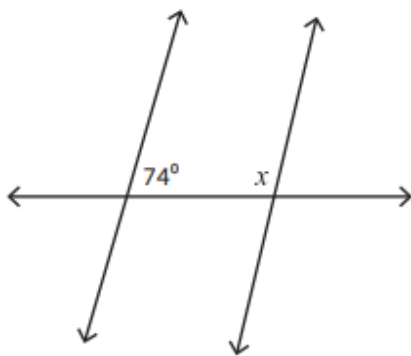
$$x = \underline{65 \text{ (alternate)}}$$

2)



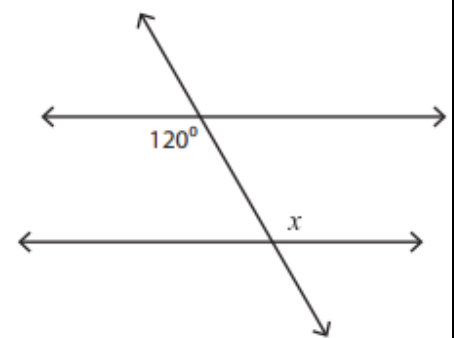
$$x = \underline{180 - 114 = 66}$$

3)



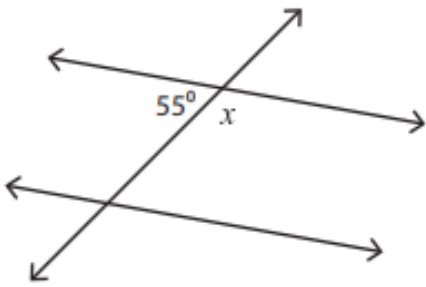
$$x = \underline{\hspace{2cm}}$$

4)



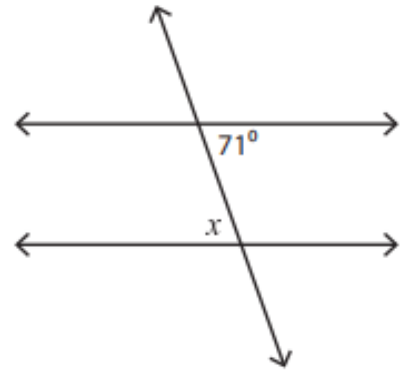
$$x = \underline{\hspace{2cm}}$$

5)



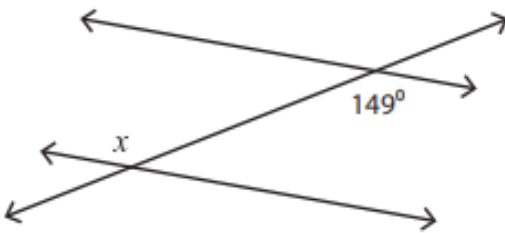
$x =$ _____

6)



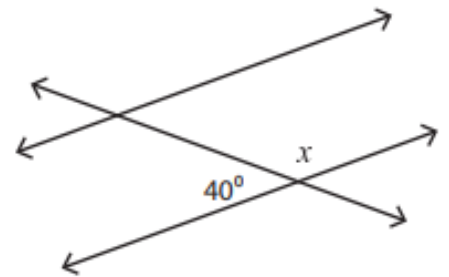
$x =$ _____

7)



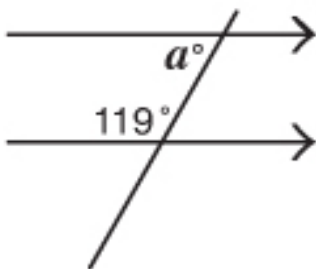
$x =$ _____

8)



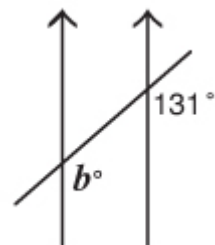
$x =$ _____

9)



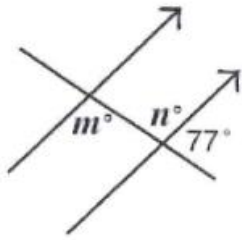
$a =$ _____

10)



$b =$ _____

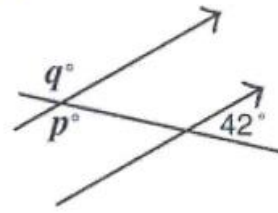
11)



$m =$ _____

$n =$ _____

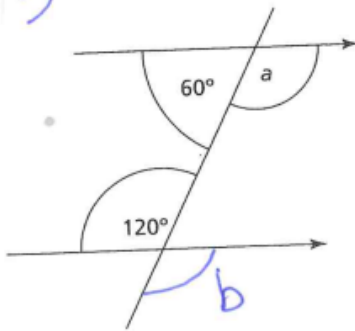
12)



$p =$ _____

$q =$ _____

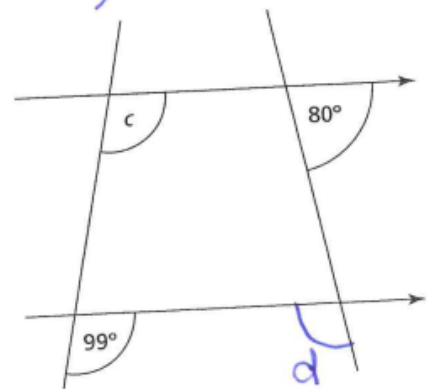
13)



$a = \dots\dots\dots^\circ$

$b = \text{---}^\circ$

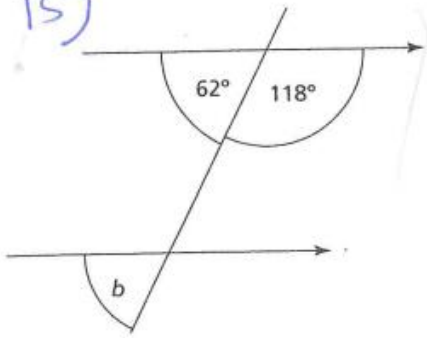
14)



$c = \dots\dots\dots^\circ$

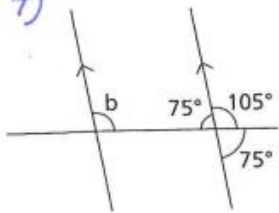
$d = \text{---}^\circ$

15)



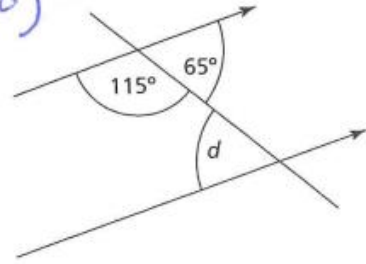
$b = \dots\dots\dots^\circ$

17)



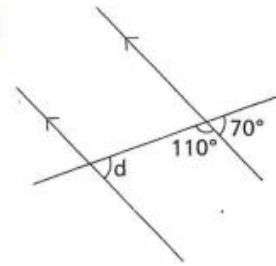
$\neq b = \underline{\hspace{2cm}}$

16)



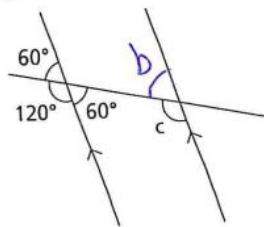
$d = \dots\dots\dots^\circ$

18)



$\neq d = \underline{\hspace{2cm}}$

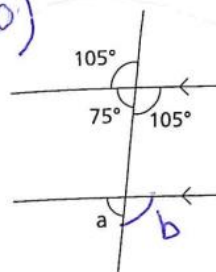
19)



$\neq c = \underline{\hspace{2cm}}$

$\neq b = \underline{\hspace{2cm}}$

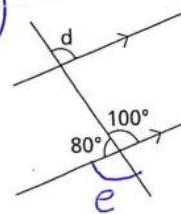
20)



$\neq a = \underline{\hspace{2cm}}$

$\neq b = \underline{\hspace{2cm}}$

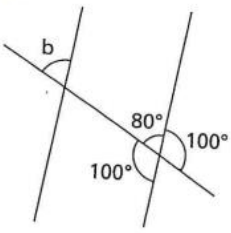
21)



$\neq d = \underline{\hspace{2cm}}$

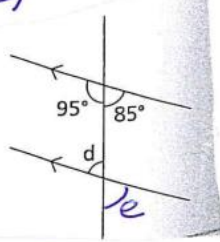
$\neq e = \underline{\hspace{2cm}}$

22)



$\sphericalangle b = \underline{\hspace{2cm}}$

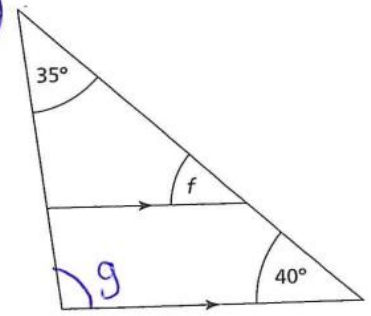
23)



$\sphericalangle d = \underline{\hspace{2cm}}$

$\sphericalangle e = \underline{\hspace{2cm}}$

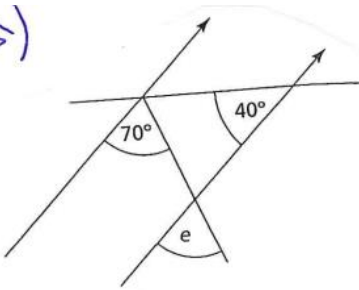
24)



$f = \dots\dots\dots^\circ$

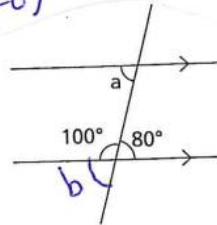
$\sphericalangle g = \underline{\hspace{2cm}}^\circ$

25)



$e = \dots\dots\dots^\circ$

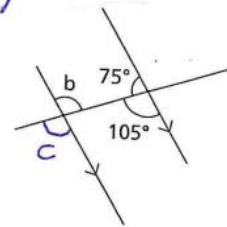
26)



$\sphericalangle a = \underline{\hspace{2cm}}$

$\sphericalangle b = \underline{\hspace{2cm}}$

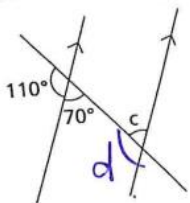
27)



$\sphericalangle b = \underline{\hspace{2cm}}$

$\sphericalangle c = \underline{\hspace{2cm}}$

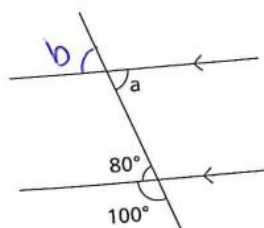
28)



$\sphericalangle c = \underline{\hspace{2cm}}$

$\sphericalangle d = \underline{\hspace{2cm}}$

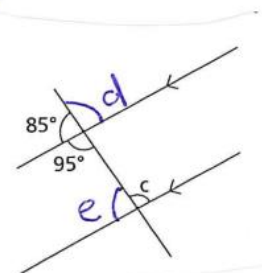
29)



$\sphericalangle a = \underline{\hspace{2cm}}$

$\sphericalangle b = \underline{\hspace{2cm}}$

30)



$\sphericalangle c = \underline{\hspace{2cm}}$

$\sphericalangle d = \underline{\hspace{2cm}}$

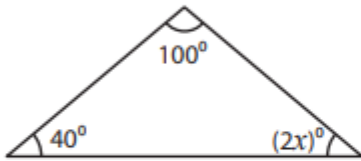
$\sphericalangle e = \underline{\hspace{2cm}}$

More examples about angles:

Answer the following question.

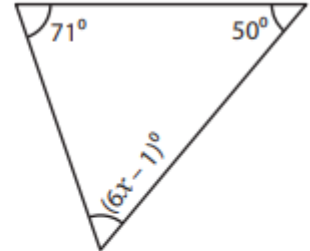
1) Find the value of x .

1)



$x =$ _____

2)



$x =$ _____

2)

State whether the given pairs are supplementary or not.

1) $24^\circ, 156^\circ$

2) $135^\circ, 102^\circ$

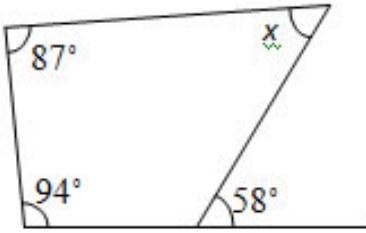
3)

1) If $\angle 1$ and $\angle 2$ are complementary angles, and $m\angle 1 = 74^\circ$; find $m\angle 2$.

2) If $\angle 5$ and $\angle 6$ are complementary angles, and $m\angle 6 = 6^\circ$; find $m\angle 5$.

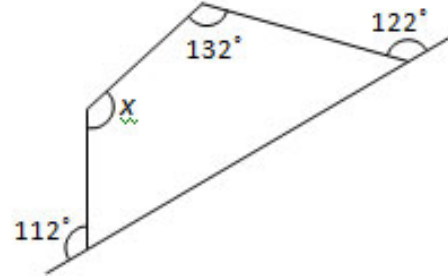
4) Calculate the value of x .

1)



$x =$ _____

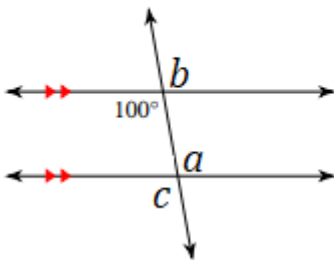
2)



$x =$ _____

5) Find the missing angles and give the reason.

1)

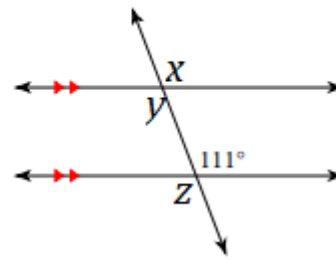


a _____

b _____

c _____

2)

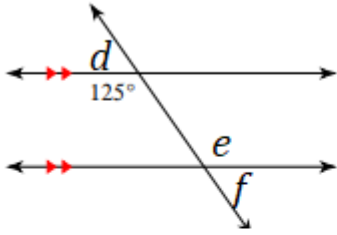


x _____

y _____

z _____

3)

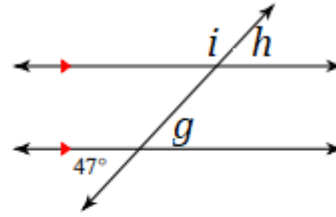


d _____

e _____

f _____

4)



g _____

h _____

i _____

