Maths Lessons – Week 8 – Angles

This pack includes your 3 maths lessons for the week. The pack includes:

- ✓ 'Quick Ten' maths starters to warm your brains up
- ✓ 3 maths lessons
- ✓ worksheets

Read through the document carefully as it will give you instructions on what to do. Your work this week is about angles. I have included a template of a protractor for you to cut out and use if you don't have one at home ☺ Remember…. T to the V and Rotisserie!!!!

Lesson 1 – Multiplication

Starter – Quick 10

Answer these 10 questions, which cover areas of maths you have already been taught, as quickly as possible. Time yourself and see if you can beat your score next time.

Question	Answer	Question	Answer
EXAMPLE: 2 X 4 =	**8**		
1. 15 001 – 100 =		6. 90 x 40 =	
2. 8 squared=		7. 1 /5 + 9/30 =	
3. 9 x 5 =		8. 4 + 11 x 11 =	
4. 4/15 + 7/15=		9. 6.07 – 0.071 =	
5. 25% of 179 =		10. 7.08 ÷ 100 =	

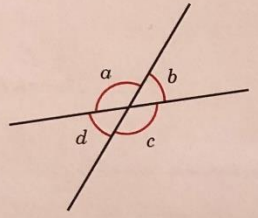
Open this link and go to SUMMER TERM – WEEK 1

https://whiterosemaths.com/homelearning/year-6/

Watch the video about angles and answer the below questions.

Vertically opposite angles

1 The diagram shows four angles formed by two straight lines.



a) Measure the sizes of the angles.

$a =$ ☐ $b =$ ☐ $c =$ ☐ $d =$ ☐

b) What is the total of angles a and b? ☐

Explain why.

_____

Do any other pairs of angles have this same total?

c) Angles a and c are vertically opposite angles.

What do you notice about the sizes of angles a and c?

_____

d) Angles b and d are also vertically opposite angles.

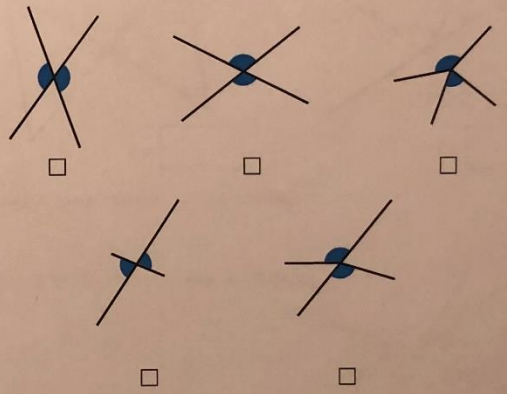
What do you notice about the sizes of angles b and d?

_____

e) Complete the sentence.

Vertically opposite angles _____

2 Tick the pairs of angles that are vertically opposite.



☐ ☐ ☐ ☐ ☐

Compare answers with a partner.

3 Work out the sizes of the unknown angles.

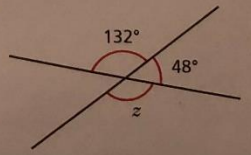
Give reasons for your answers.

a)

$y =$ ☐ because _____

_____

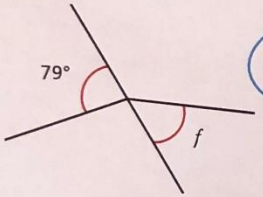
b)

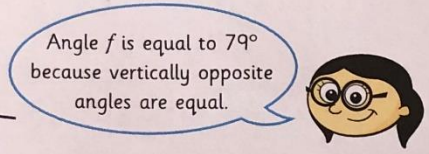


$z =$ ☐ because _____

_____

4 Annie is working out the size of angle f.





Do you agree with Annie? _____

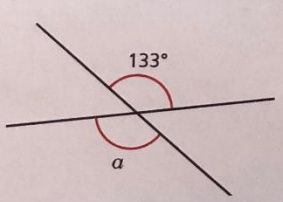
Explain your answer.

_____

_____

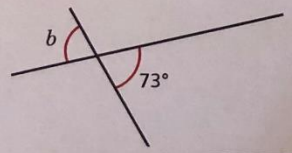
5 Work out the unknown angles.

a)



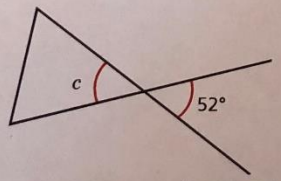
$a =$ ☐

b)



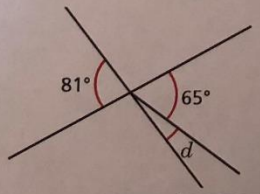
$b =$ ☐

c)



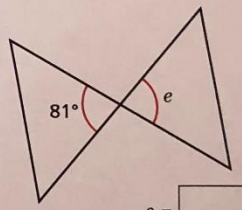
$c =$ ☐

d)



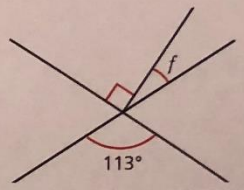
$d =$ ☐

e)



$e =$ ☐

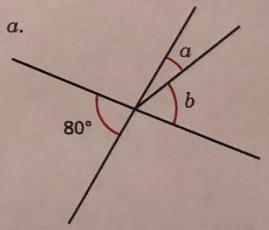
f)



$f =$ ☐

Talk about your reasons with a partner.

6 Angle b is three times the size of angle a.

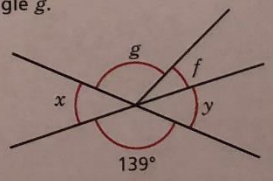


Work out the sizes of angles a and b.

$a =$ ☐ $b =$ ☐

7 Angle f is one quarter of the size of angle g.

Angle f is 28°.



Are angles x and y vertically opposite? _____

Explain your answer.

_____

_____

Lesson 2 – Angles in Triangles

Starter – Quick 10

Answer these 10 questions, which cover areas of maths you have already been taught, as quickly as possible. Time yourself and see if you can beat your time from lesson 1.

Question	Answer	Question	Answer
EXAMPLE: 2 X 4 =	**8**		
1. 11 077 – 1000 =		6. 40 x 80 =	
2. 12 squared=		7. 2 /18 + 7/9 =	
3. 16 x4 =		8. 41 – (9 x 4) =	
4. 11/7 - 8/7=		9. 140.078 – 0.927 =	
5. 25% of 31 500 =		10. 12.05 ÷ 100 =	

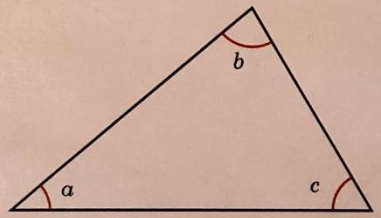
Open this link and go to SUMMER TERM – WEEK 1

https://whiterosemaths.com/homelearning/year-6/

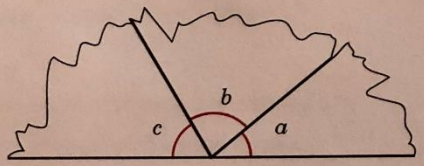
Watch the video about angles in triangles and answer the below questions.

Angles in a triangle

1 Here is a triangle.



a) The three vertices are torn off the triangle and arranged on a straight line.



What is the sum of the three angles? ☐

How do you know?

_____

b) Now measure the sizes of angles a, b and c in the triangle.

$a =$ ☐ $b =$ ☐ $c =$ ☐

c) What is the total of angles a, b and c? ☐

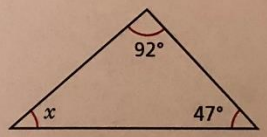
d) Complete the sentence.

Angles in a triangle _____

2 Work out the sizes of the unknown angles.

Give reasons for your answers.

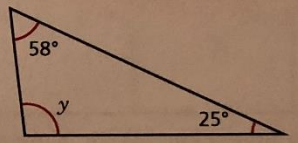
a)



$x =$ ☐ because _____

_____

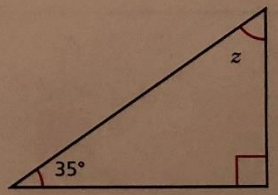
b)



$y =$ ☐ because _____

_____

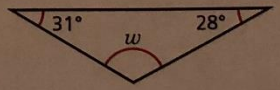
c)



$z =$ ☐ because _____

_____

d)

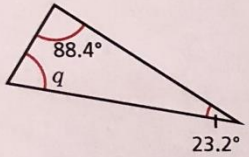


$w =$ ☐ because _____

_____

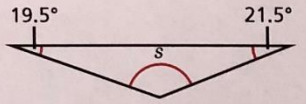
3 Work out the unknown angles.

a)



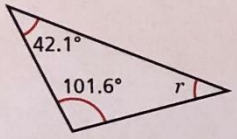
$q =$ ☐

c)



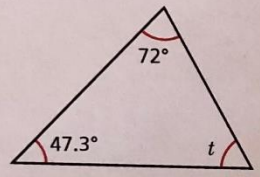
$s =$ ☐

b)



$r =$ ☐

d)



$t =$ ☐

Discuss your reasons with a partner.

4 **a)** Two angles in a triangle are 42° and 57°.

What is the size of the third angle?

☐

b) Two of the angles in a triangle are 12°.

What is the size of the third angle?

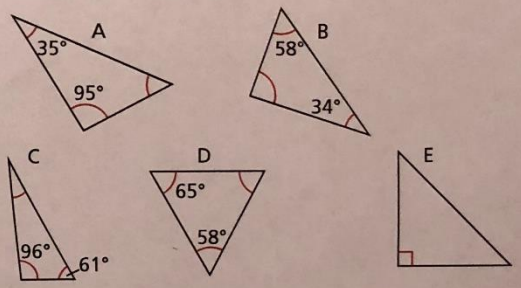
☐

c) One of the angles in a triangle is 38°. Another angle is twice the size of the first angle.

What is the size of the third angle?

☐

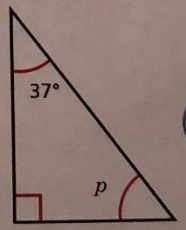
5 Sort the triangles into the table.

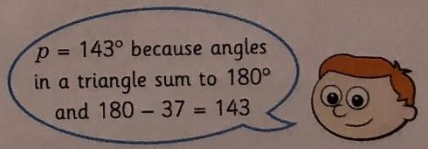


0 acute angles	1 acute angle	2 acute angles	3 acute angles

Are any of the columns empty? Why?

6





Do you agree with Ron? _____

Explain your answer.

Lesson 3 – Missing angles

Starter – Quick 10

Answer these 10 questions, which cover areas of maths you have already been taught, as quickly as possible. Time yourself and see if you can beat your time from lesson 1.

Question	Answer	Question	Answer
EXAMPLE: 2 X 4 =	**8**		
1. 259, 099 – 1000 =		6. 70 x 90 =	
2. 100 squared=		7. 3/18 + 7/3 =	
3. 99 x 8 =		8. 20 + 12 ÷ 4 =	
4. 14/19 - 4/19=		9. 12.95 – 11.737 =	
5. 75% of 7844 =		10. 0.007 x 1000 =	

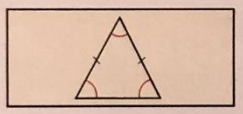
Open this link and go to SUMMER TERM – WEEK 1 – LESSON 4

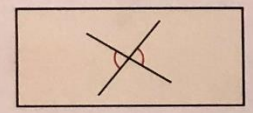
https://whiterosemaths.com/homelearning/year-6/

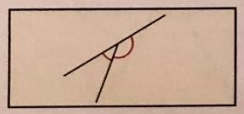
Watch the video about MSSING ANGLES in triangles and answer the below questions.

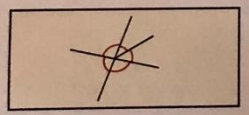
Angles in a triangle – missing angles

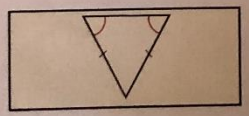
1 Match each diagram to the correct rule.









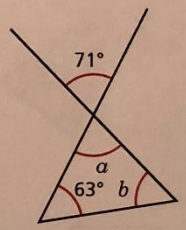


Angles on a straight line sum to 180°
Angles around a point sum to 360°
Angles in a triangle sum to 180°
In an isosceles triangle, two angles are equal
Vertically opposite angles are equal

2 Work out the sizes of the unknown angles.

Give reasons for each stage of your working.

a)



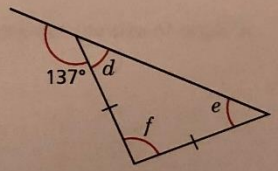
$a =$ ☐ because _____

_____

$b =$ ☐ because _____

_____

b)



$d =$ ☐ because _____

_____

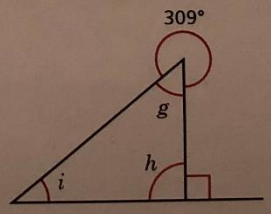
$e =$ ☐ because _____

_____

$f =$ ☐ because _____

_____

c)



$g =$ ☐ because _____

_____

$h =$ ☐ because _____

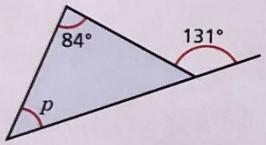
_____

$i =$ ☐ because _____

_____

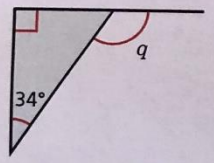
3 Work out the sizes of the angles marked with letters.

a)



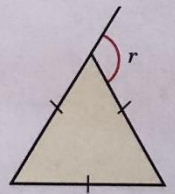
$p =$ ☐

b)



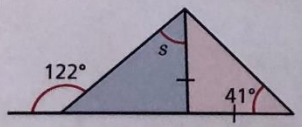
$q =$ ☐

c)



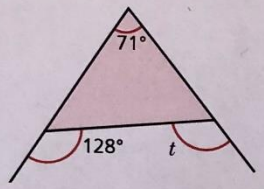
$r =$ ☐

d)



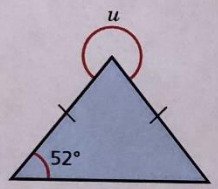
$s =$ ☐

e)



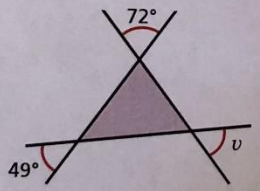
$t =$ ☐

f)



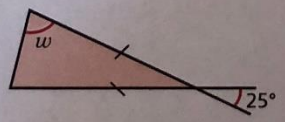
$u =$ ☐

g)



$v =$ ☐

h)

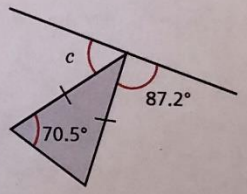


$w =$ ☐

Talk about your reasons with a partner.

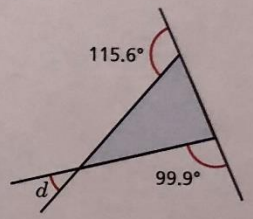
4 Work out the sizes of the unknown angles.

a)



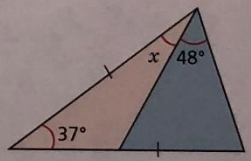
$c =$ ☐

b)



$d =$ ☐

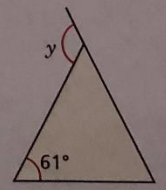
5 Work out the size of angle x.



$x =$ ☐

6 Here is an isosceles triangle.

Find two possible sizes of angle y.



$y =$ ☐ or ☐