


Year 5/6

Maths

Week 2

Date	
Subject/s	Maths
Learning Objective 	To recall and use multiplication and division facts

$1) 7 \times 2 = \underline{\quad}$

$2) 3 \times 8 = \underline{\quad}$

$3) 4 \times 6 = \underline{\quad}$

$4) 2 \times 9 = \underline{\quad}$

$5) 6 \times 4 = \underline{\quad}$

$6) 8 \times 4 = \underline{\quad}$

$7) 7 \times 5 = \underline{\quad}$

$8) 9 \times 10 = \underline{\quad}$

$9) 6 \times 6 = \underline{\quad}$

$1) 6 \times \underline{\quad} = 18$

$2) 8 \times \underline{\quad} = 16$

$3) \underline{\quad} \times 7 = 7$

$4) \underline{\quad} \times 9 = 45$

$5) 7 \times \underline{\quad} = 21$

$6) \underline{\quad} \times 6 = 36$

$7) \underline{\quad} \times 8 = 40$

$8) 9 \times \underline{\quad} = 90$

$9) \underline{\quad} \times 8 = 32$

$10) \underline{\quad} \times 6 = 24$

$11) 7 \times \underline{\quad} = 63$

$12) \underline{\quad} \times 6 = 0$

$13) \underline{\quad} \times 8 = 80$

$14) 9 \times \underline{\quad} = 54$

$15) 6 \times \underline{\quad} = 42$

$16) \underline{\quad} \times 8 = 56$

$17) \underline{\quad} \times 9 = 81$

$18) 6 \times \underline{\quad} = 30$

$19) 8 \times \underline{\quad} = 48$

$20) \underline{\quad} \times 9 = 18$

$21) 8 \times 6 = \underline{\quad}$

$22) 7 \times 9 = \underline{\quad}$

$23) 6 \times 7 = \underline{\quad}$

$24) 8 \times 8 = \underline{\quad}$

$25) 6 \times 3 = \underline{\quad}$

$26) 9 \times 6 = \underline{\quad}$

$27) 7 \times 5 = \underline{\quad}$

$28) 8 \times 9 = \underline{\quad}$

$29) 10 \times 7 = \underline{\quad}$

$21) \underline{\quad} \times 7 = 49$

$22) 8 \times \underline{\quad} = 72$

$23) \underline{\quad} \times 6 = 48$

$24) 9 \times \underline{\quad} = 45$

$25) \underline{\quad} \times 7 = 63$

$26) 6 \times \underline{\quad} = 36$

$27) 8 \times \underline{\quad} = 64$

$28) \underline{\quad} \times 6 = 42$

$29) \underline{\quad} \times 9 = 72$

$30) 7 \times \underline{\quad} = 56$

$31) \underline{\quad} \times 8 = 48$

$32) 6 \times \underline{\quad} = 60$

$33) 9 \times \underline{\quad} = 45$

$34) \underline{\quad} \times 8 = 72$

$35) \underline{\quad} \times 7 = 28$

$36) 9 \times \underline{\quad} = 81$

$37) \underline{\quad} \times 6 = 6$

$38) \underline{\quad} \times 8 = 64$

$39) 7 \times \underline{\quad} = 49$

$40) \underline{\quad} \times 9 = 54$

Date	
Subject/s	<u>Maths</u>
Learning Objective	To use scale factors




	SA	TA

Success Criteria 	I know if you enlarge something you multiply all the measure-		
	I know if a scale factor is a fraction the shape becomes smaller		
	I know scale factors can be used to represent larger measurements		

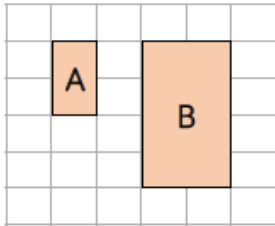
Support	Independent	Adult Support ()	Group Work
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Pre-task:

Enlarge the following shapes by

- Scale factor 2
 - Scale factor 3
 - Scale factor 4
- 
- 2 cm
- 5 cm

Complete the sentences to describe the shapes.



Shape B is _____ as big as shape A.

Shape A has been enlarged by scale factor _____ to make shape B.

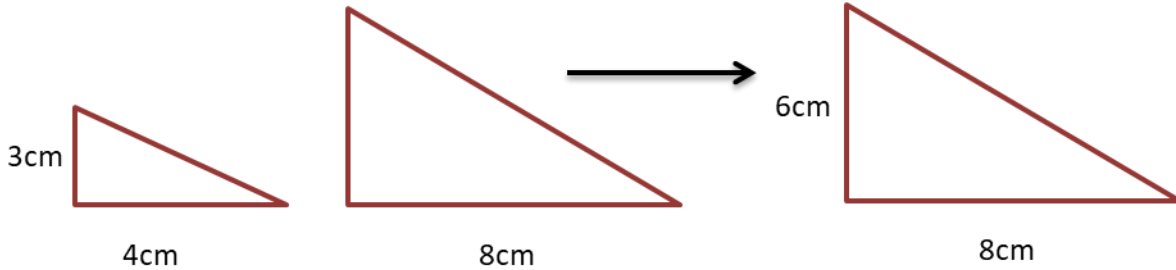
Teacher Led

What is scale factor? <https://www.youtube.com/watch?v=pue9Qc1Fg0k> (until 2:12)

<https://www.youtube.com/watch?v=iKASqoBG-s>

Example

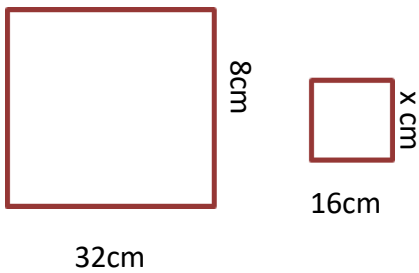
These two triangles are similar. Find all the missing lengths.



Step 1) Find the scale factor by looking at how you can go from 4cm to 8cm. *In this case we multiplied by 2!*

Step 2) Multiply all the sides on the original shape to give you the sides on the other shape.

If the shape is getting smaller, the scale factors are written as a fraction.



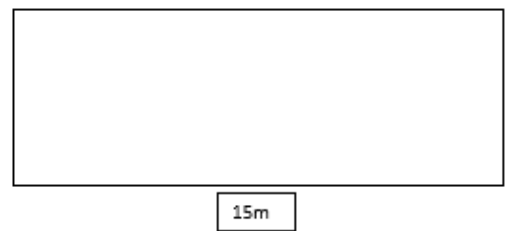
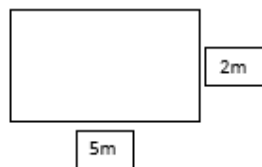
To get from 32cm to 16cm you divide by 2. So the scale factor is $\frac{1}{2}$.

To work out x

$$8 \div 2 = 4$$

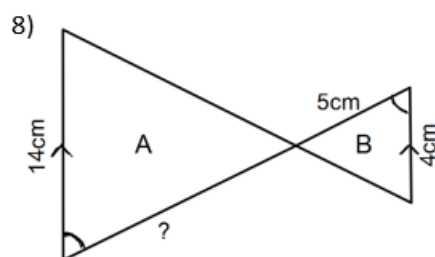
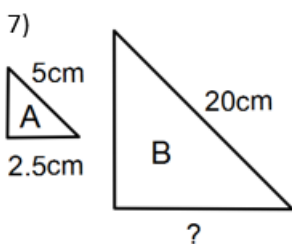
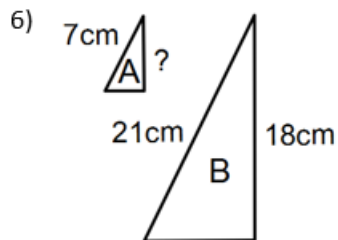
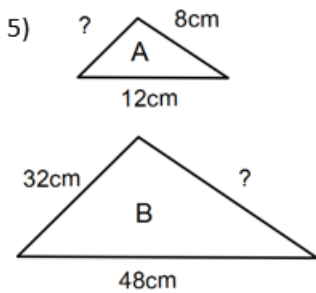
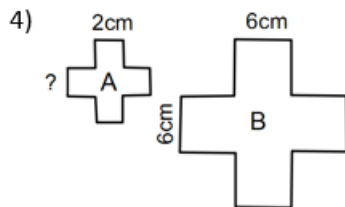
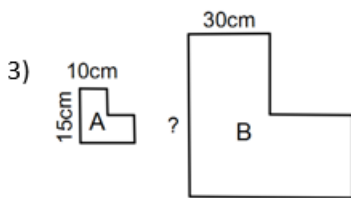
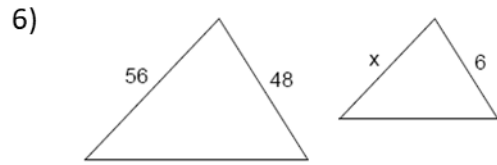
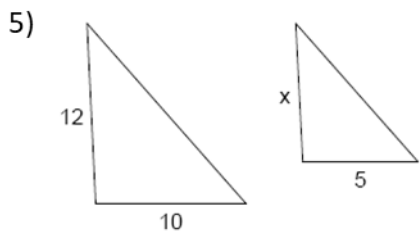
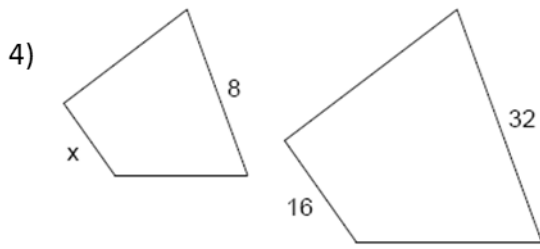
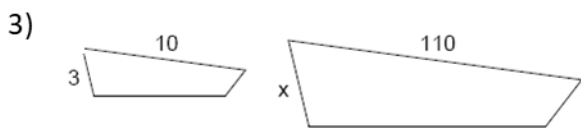
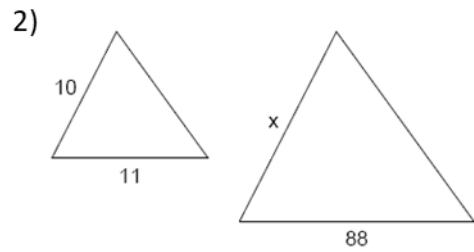
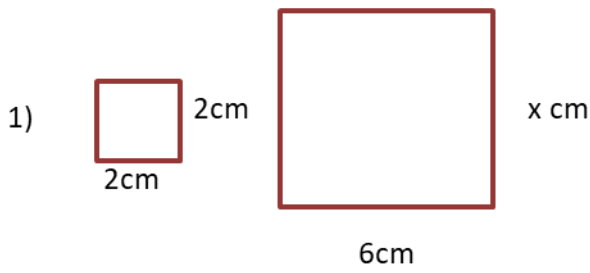
$$x = 4\text{cm}$$

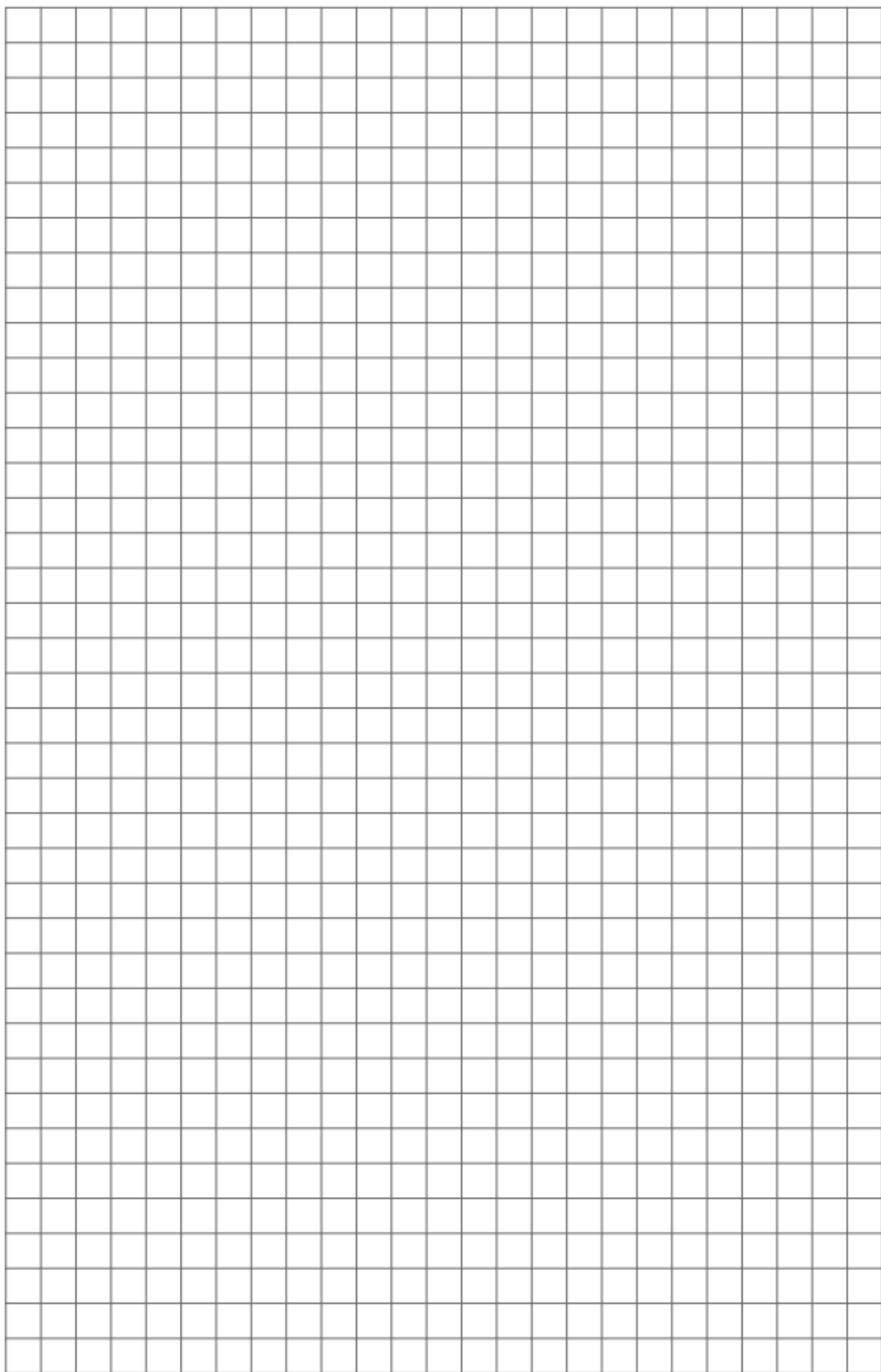
Your turn:



Fluency

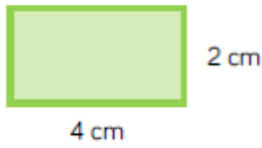
All shapes in section A are similar. Write the scale factor. Work out the missing length.





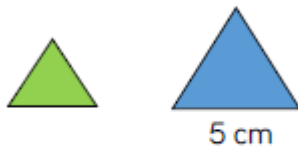
Explain it! **Problem Solving and Reasoning**

Tom says that each of these rectangles is an enlarged version of one of the others.



Do you agree?
Explain your answer.

Here are two equilateral triangles.
The blue triangle is three times larger than the green triangle.

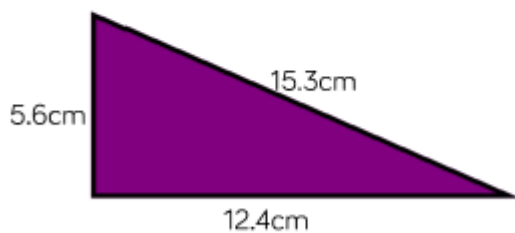
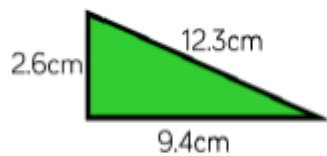


Find the perimeter of both triangles

Brian says:



The purple triangle has been enlarged from the green triangle by scale factor 3



Do you agree?
Explain why.

Fluency Answers

1. SF = $3 \times = 6\text{cm}$
2. SF = $8 \times = 80\text{cm}$
3. SF = $11 \times = 33\text{cm}$
4. SF = $1/4 \times = 4\text{cm}$
5. SF = $1/2 \times = 6\text{cm}$
6. SF = $1/8 \times = 7\text{cm}$
7. SF = $3 ? = 45\text{cm}$
8. SF = $4 ? = 8\text{cm}$
9. SF = $4 ? = 10\text{cm}$
10. SF = $1/3 ? = 2\text{cm}$
11. SF = $1/3 ? = 6\text{cm}$
12. SF = $2.5 ? = 12.5\text{cm}$

Problem solving and reasoning answers

Answers


Tom is wrong. The orange rectangle is an enlarged version of the green with scale factor 3, but the blue rectangle is not similar because the same amount has been added to the sides and they should be multiplied or divided to be enlarged.

The blue triangle has a perimeter of 15 cm.

The green triangle has a perimeter of 5 cm

Possible answer

I do not agree because Brian has increased the green shape by adding 3cm to each side, not increasing it by a scale factor of 3

Date	
Subject/s	Maths
Learning Objective 	To recall and use multiplication and division facts

$3 \times 4 =$

$7 \times 8 =$

$9 \div 3 =$

$36 \div 12 =$

$21 \div 7 =$

$8 \times 6 =$

$12 \times 4 =$

$10 \times 8 =$

$4 \times 8 =$

$3 \times 9 =$

$4 \times 7 =$

$3 \times 11 =$

$40 \div 8 =$

$15 \div 3 =$

$27 \div 9 =$

$20 \div 4 =$

$4 \times 11 =$

$48 \div 6 =$

$8 \div 4 =$

$6 \times 8 =$

$5 \times 8 =$

$11 \times 3 =$

$5 \times 8 =$

$80 \div 10 =$

$24 \div 4 =$

$88 \div 11 =$

$24 \div 3 =$

$4 \times 1 =$

$72 \div 8 =$

$8 \times 4 =$

$9 \times 4 =$

$8 \times 5 =$

$10 \times 3 =$

$16 \div 4 =$

$8 \times 11 =$

$6 \times 4 =$

$5 \times 4 =$

$32 \div 8 =$

$6 \div 3 =$

$3 \div 3 =$

$12 \div 3 =$

$3 \times 6 =$

$48 \div 12 =$

$44 \div 11 =$

$4 \times 9 =$

$8 \div 8 =$

$3 \times 4 =$

$7 \times 3 =$

$11 \times 8 =$

$4 \times 3 =$

$0 \times 8 =$

$12 \times 8 =$

$3 \times 12 =$

$48 \div 8 =$

$18 \div 3 =$

$28 \div 4 =$

$24 \div 8 =$

$30 \div 10 =$

$3 \times 3 =$

$56 \div 7 =$

$27 \div 3 =$

$8 \times 9 =$

$64 \div 8 =$

$4 \times 12 =$

$7 \times 4 =$

$10 \times 4 =$

$36 \div 4 =$

$5 \times 3 =$

$36 \div 9 =$

$16 \div 8 =$

$8 \times 8 =$

$56 \div 7 =$

$56 \div 8 =$

$8 \times 3 =$

$21 \div 3 =$

$4 \times 6 =$

$3 \times 0 =$

$72 \div 9 =$

$4 \times 12 =$

$32 \div 4 =$

$12 \div 4 =$

$3 \times 8 =$

$96 \div 12 =$

$12 \times 3 =$

$33 \div 3 =$

$4 \times 4 =$

$24 \div 8 =$

$7 \times 8 =$

$6 \times 3 =$

$9 \times 8 =$

$2 \times 3 =$

$9 \times 3 =$

$40 \div 4 =$

$4 \div 4 =$

$11 \times 4 =$





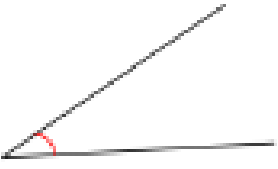
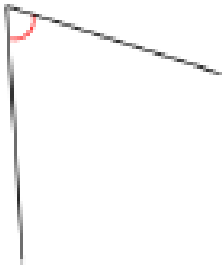

$21 \div 3 =$

$28 \div 7 =$

$3 \times 7 =$

$32 \div 8 =$

$8 \times 12 =$

Date			
Subject/s	<u>Maths</u>		
Learning Objective	To estimate and compare angles		
			
		SA 	TA 
Success Criteria	I know what acute, obtuse and reflex angles are		
	I can visualise a right angle		
	I can estimate angles when I know that a straight line is 180 de-		
Support	Independent	Adult Support ()	Group Work
<p>Pre-task:</p> <p>Are the angles below obtuse, reflex or acute? Estimate the size of the angle.</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div>			

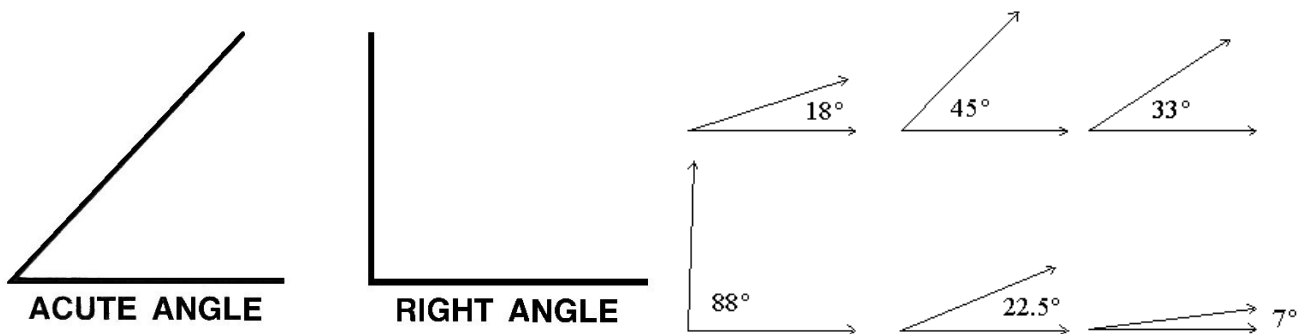
Teacher Led

What is an angle? <https://www.bbc.co.uk/bitesize/topics/zb6tyrd/articles/zg68k7h>

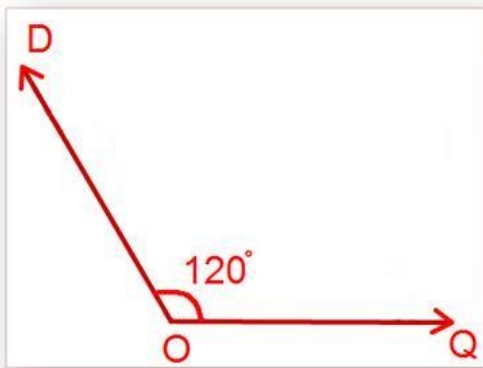
90 degrees is a right angle. It makes an L shape. It be upside down or back to front.



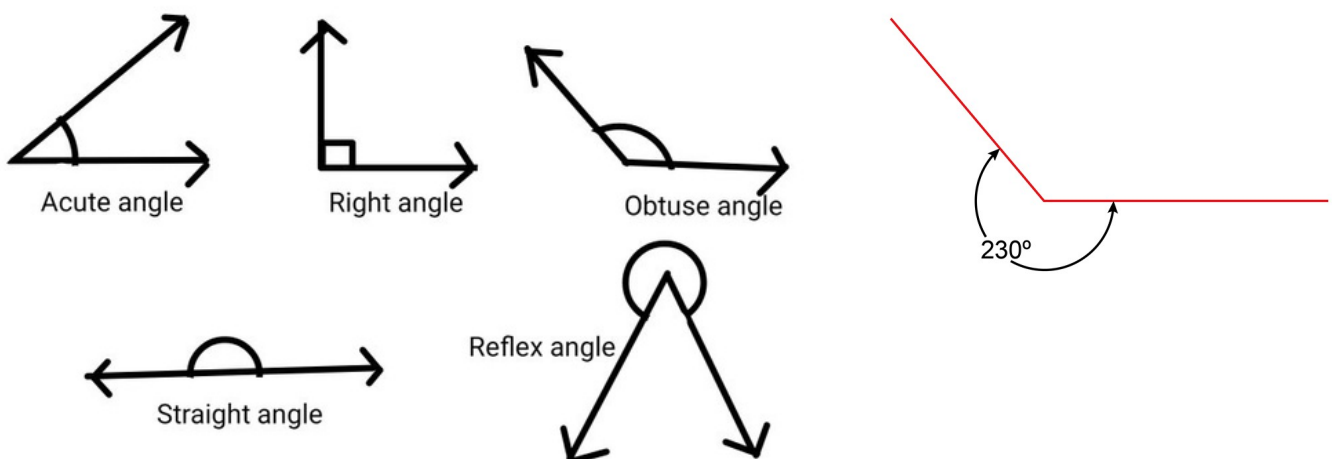
Acute angles are smaller than a right angle (90 degrees). They are smaller than the 'L shape'.



Obtuse angles are bigger than a right angle (90 degrees) but less than 180 degrees (a straight line). They are bigger than the 'L shape'



A reflex angle is more than a straight line (180 degrees)

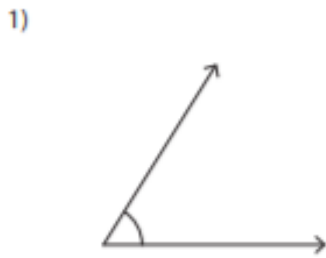


Your turn

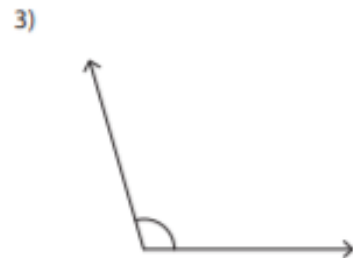
Put these angles in order of size. Explain how you know.

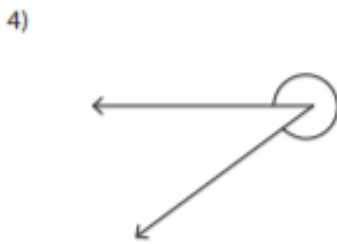


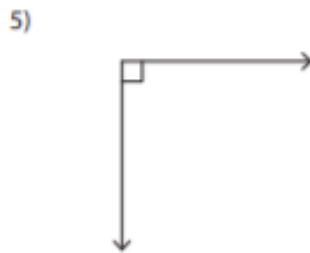
Are the angles below acute, right or obtuse? Estimate their size. Remember a right angle is 90 degrees and a straight line is 180 degrees.

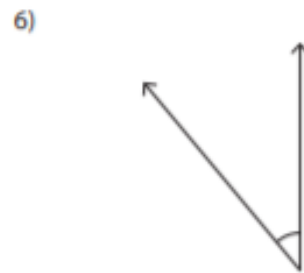






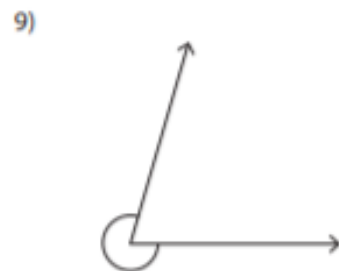




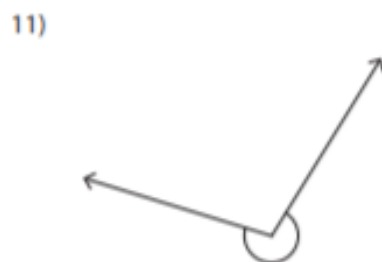






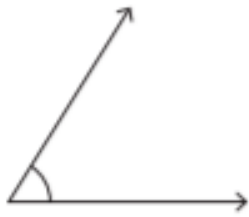








1)



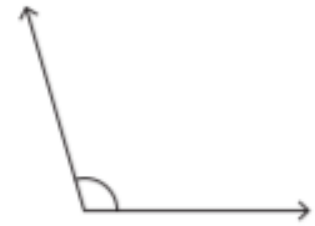
Acute angle

2)



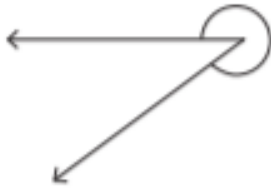
Straight angle

3)



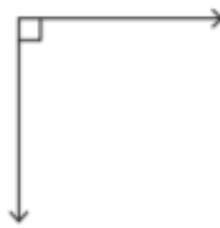
Obtuse angle

4)



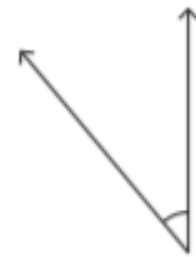
Reflex angle

5)



Right angle

6)



Acute angle

7)



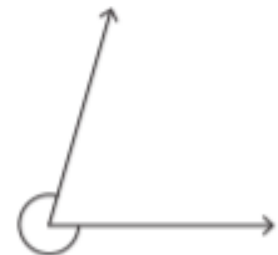
Obtuse angle

8)



Acute angle

9)



Reflex angle

10)



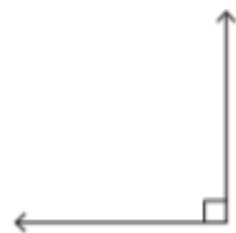
Straight angle

11)



Reflex angle

12)



Right angle

Fluency

Label each angle as acute, obtuse, or right.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

11.

12.

Key

- Acute
- Obtuse
- Right angle

Acute angles are less than 90° .
 Obtuse angles are less than 180° , but more than 90° .
 • Choose 3 colours, fill in the key, then colour the angles as appropriate.
 • Estimate the sizes of the angles by comparing them to right angles and straight lines.
 • Use a protractor to measure the angles.

1)

2)

3)

4)

5)

6)

7)

8)

9)

10)

11)

12)

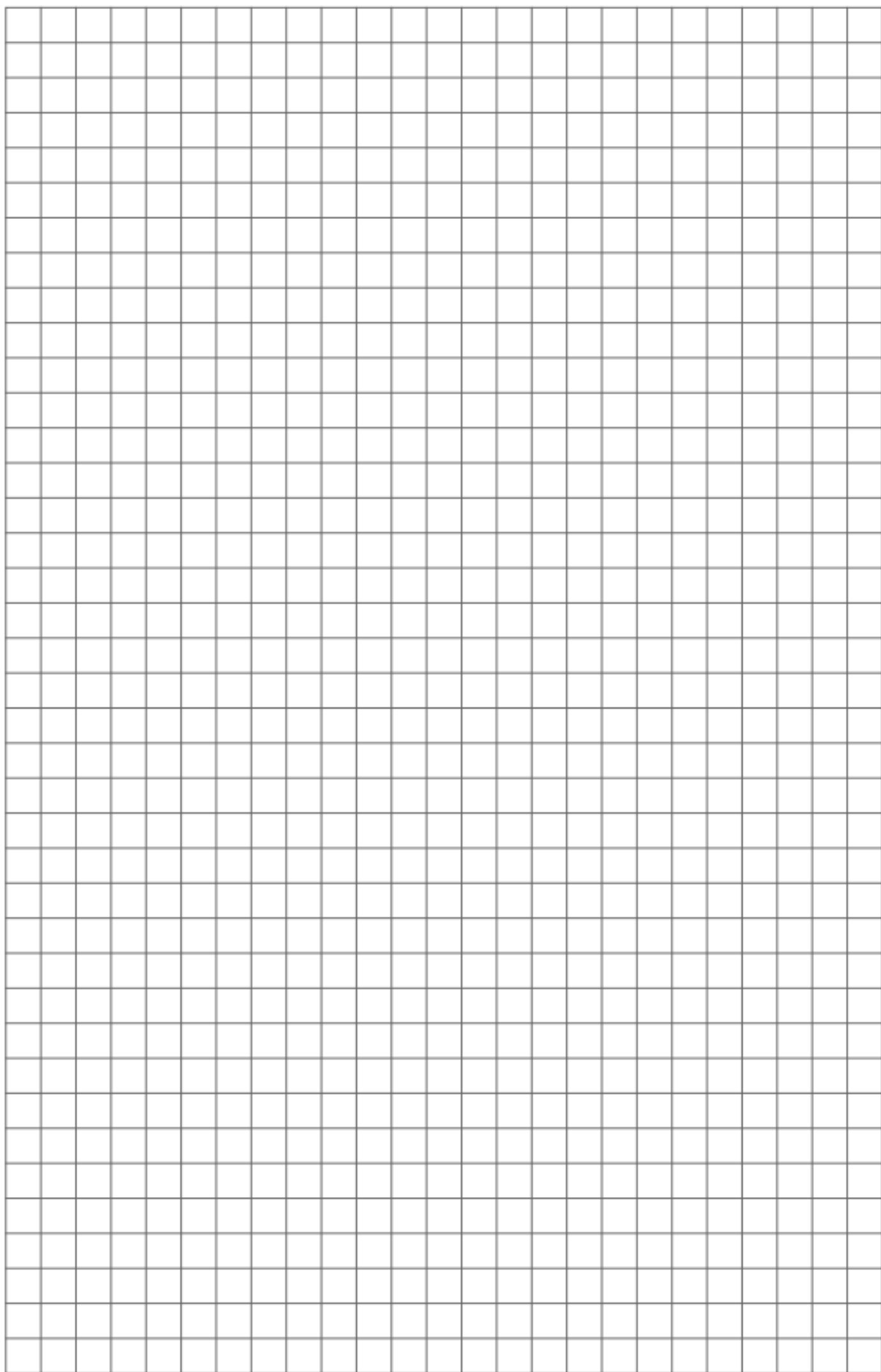
13)

14)

15)

Estimates:

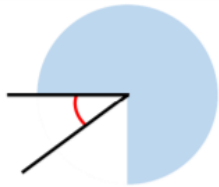
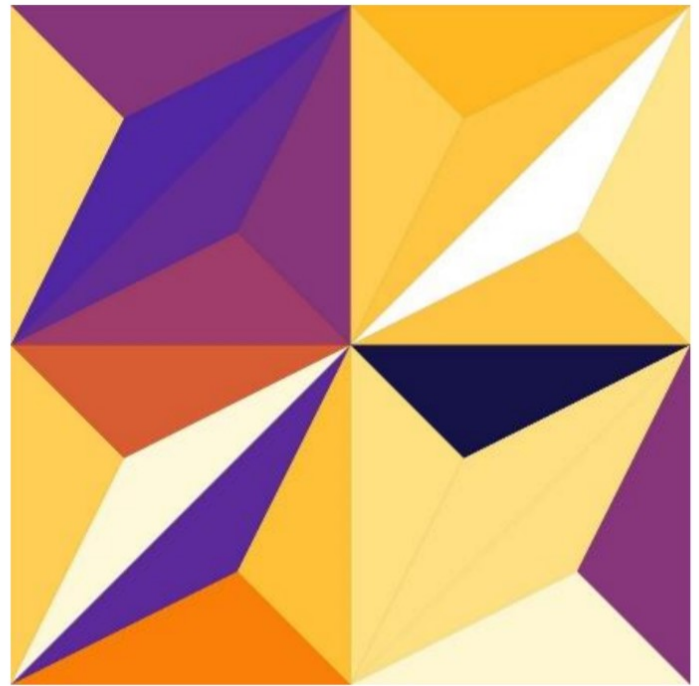
1)	6)	11)
2)	7)	12)
3)	8)	13)
4)	9)	14)
5)	10)	15)



Problem Solving and Reasoning

Identify obtuse angles in the image.

Estimate the size of the angles, and then measure them.



I know the angle is not obtuse.



Teddy



Alex

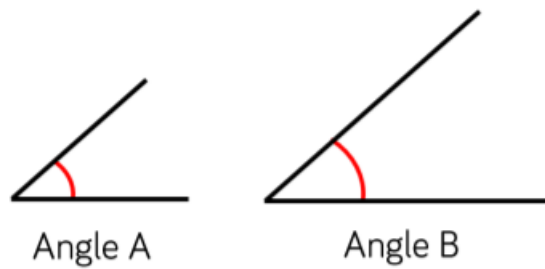
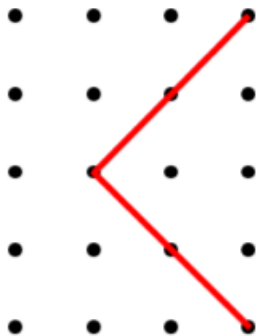
I know the angle is acute.

I think the angle is roughly 45°.



Whitney

Who is correct?
Explain your reasons.



Angle A

Angle B



Ron

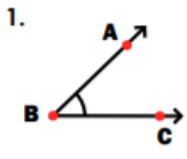
Angle B is bigger than Angle A because it has longer sides.

Do you agree with Ron? Explain your thinking.

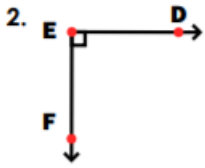
Is the angle acute, obtuse or a right angle?
Can you explain why?

Answers

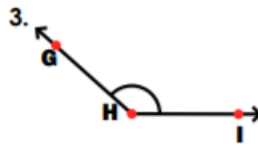
Label each angle as acute, obtuse, or right.



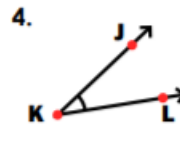
acute



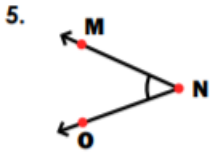
right



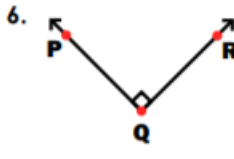
obtuse



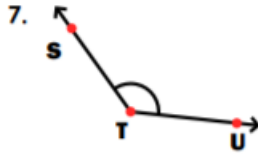
acute



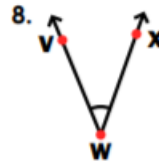
acute



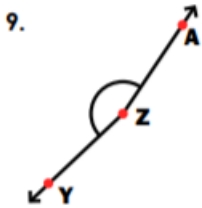
right



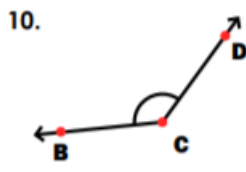
obtuse



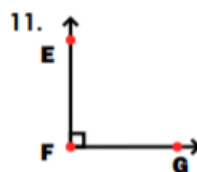
acute



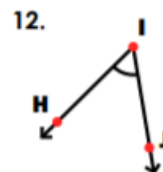
obtuse



obtuse



right



acute

1. Obtuse
2. Right
3. Acute
4. Obtuse
5. Acute
6. Acute
7. Right
8. Acute
9. Obtuse
10. Right
11. Obtuse
12. Acute
13. Acute
14. Obtuse
15. Obtuse


No answers for the picture

All are correct. Children may reason about how Whitney has come to her answer and discuss that the angle is about half a right angle. Half of 90 degrees is 45 degrees.






The angle is a right angle. Children may use an angle tester to demonstrate it, or children may extend the line to show that it is a quarter turn which is the same as a right angle.



Angle A and Angle B are the same size. Ron has mixed up the lengths of the lines with the size of the angles.

Date	
Subject/s	Maths
Learning Objective 	To recall and use multiplication and division facts

1	9 X 7		30	6 x 9		59	9 X 4	
2	8 x 4		31	12 x 3		60	7 x 6	
3	7 x 10		32	3 x 8		61	4 x 8	
4	9 x 9		33	8 X 8		62	12 X 2	
5	6 x 2		34	6 x 8		63	3 x 6	
6	4 x 7		35	11 x 7		64	4 x 10	
7	9 X 2		36	10 x 1		65	9 x 11	
8	12 x 12		37	10 x 5		66	3 x 12	
9	5 X 9		38	3 x 5		67	3 x 10	
10	7 X 7		39	12 x 11		68	4 X 4	
11	11 x 6		40	6 x 6		69	4 x 9	
12	5 x 11		41	2 x 9		70	4 x 11	
13	4 x 6		42	12 x 7		71	6 x 5	
14	9 x 5		43	11 x 8		72	7 x 2	
15	8 X 12		44	2 x 6		73	5 x 12	
16	10 x 10		45	4 x 5		74	2 x 10	
17	7 x 3		46	4 x 9		75	4 x 12	
18	5 x 8		47	8 x 2		76	7 x 8	
19	3 x 3		48	7 x 9		77	6 x 10	
20	10 x 11		49	12 x 8		78	12 x 6	
21	11 x 2		50	9 X 4		79	7 x 12	
22	2 x 7		51	5 X 5		80	2 X 2	
23	6 x 12		52	10 x 12		81	11 x 0	
24	5 x 7		53	8 x 11		82	2 x 12	
25	10 x 6		54	4 x 3		83	2 X 4	
26	9 x 12		55	2 x 5		84	8 x 5	
27	5 x 4		56	5 x 10		85	7 x 11	
28	11 x 11		57	9 x 3		86	9 x 6	
29	7 x 4		58	8 x 10		87	10 x 11	

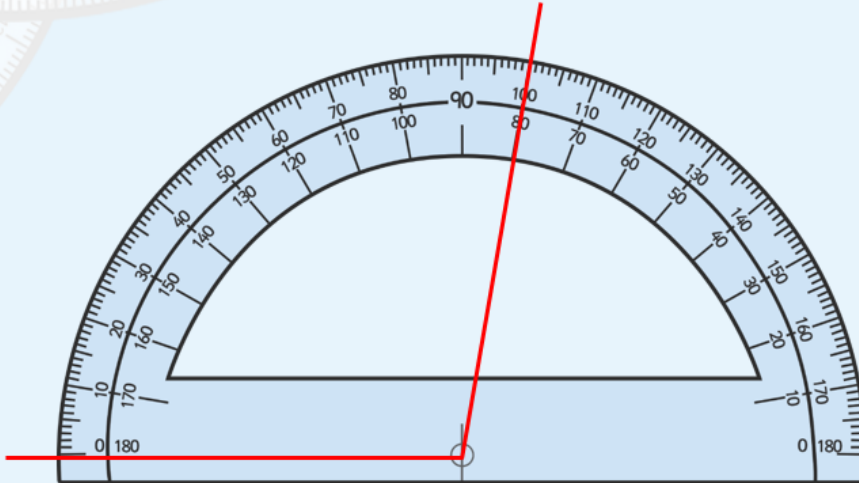
Date			
Subject/s	<u>Maths</u>		
Learning Objective	To use a protractor		
			
		SA 	TA 
Success Criteria	I know the protractor measures angles		
	I know an angle is the amount of turn		
	I can line the protractor up with the vertex of the angle to measure		
Support	Independent	Adult Support ()	Group Work
Pre-task: Measure the angles 			

Teacher Led

How to use a protractor <https://www.youtube.com/watch?v=3QRRdAaLZBA>

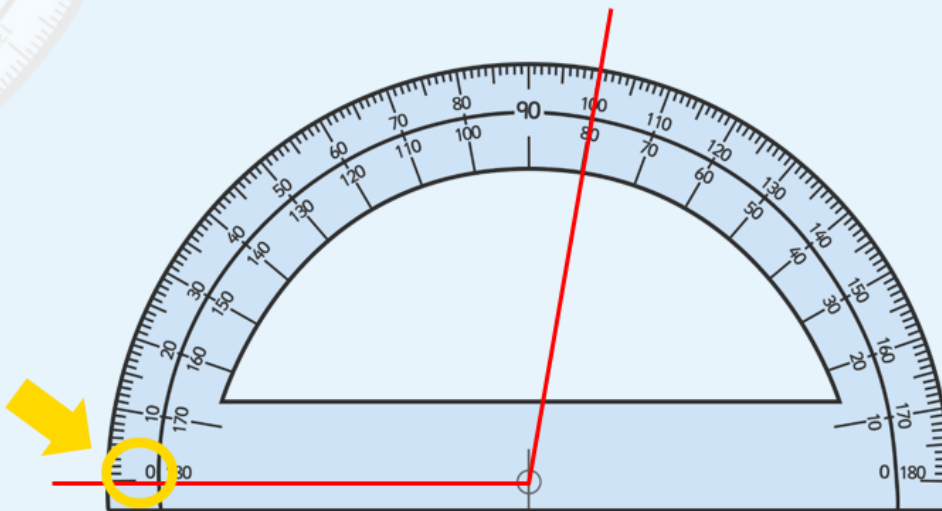
1

Place the cross or circle at the point (vertex) of the angle that you are measuring.



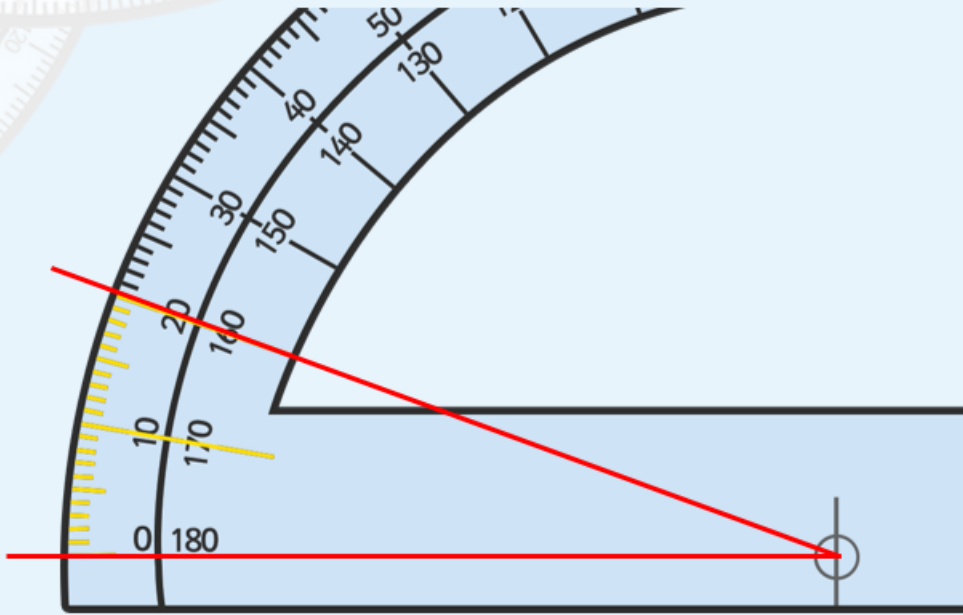
2

Read from the zero on the outer scale of your protractor.



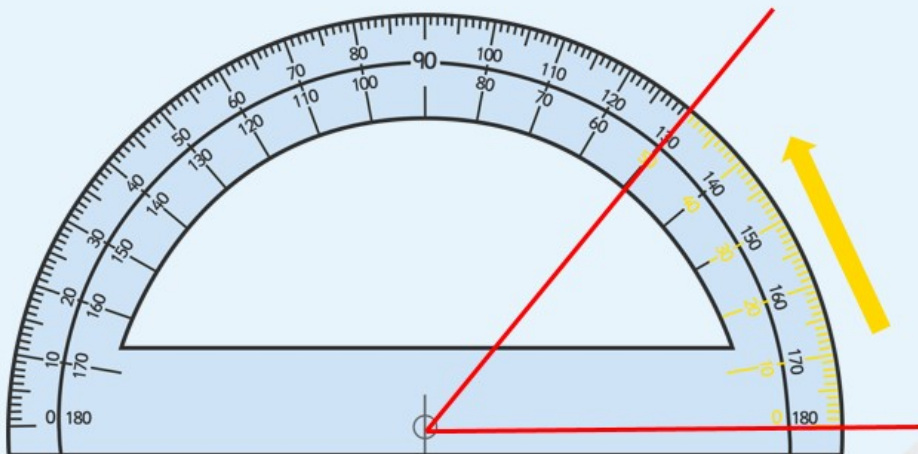
3

Count the degree lines carefully.



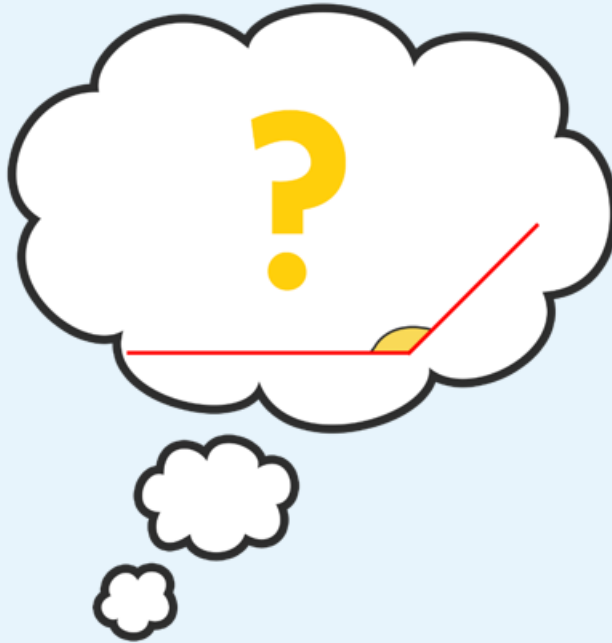
4

If the angle that you are measuring turns in an anti-clockwise direction, you will need to use the inner scale of your protractor.



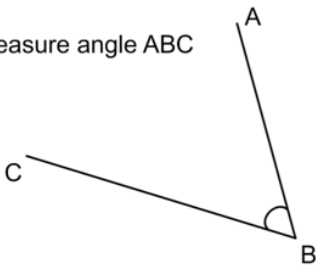
Tip!

It is a good idea to estimate the angle before measuring.

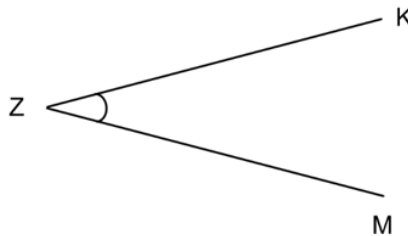


Your turn

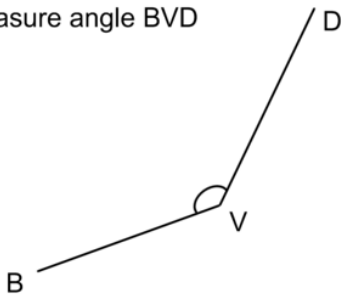
1) Measure angle ABC



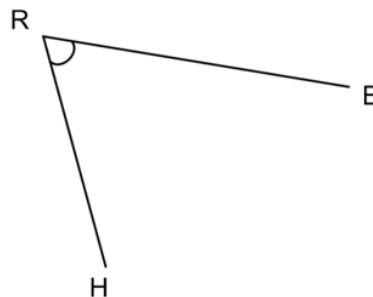
2) Measure angle KZM



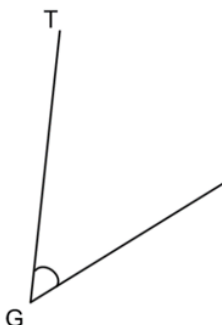
3) Measure angle BVD



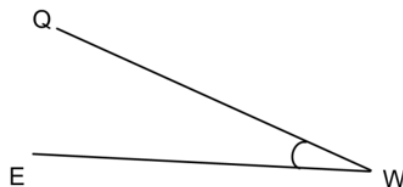
4) Measure angle HRB



5) Measure angle TGF



6) Measure angle EWQ



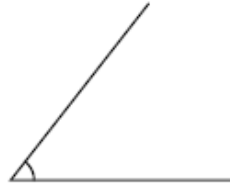
Fluency

(1)



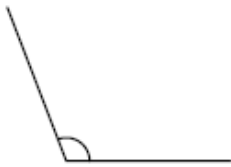
This angle is _____ degrees.

(6)



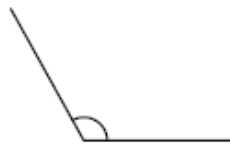
This angle is _____ degrees.

(2)



This angle is _____ degrees.

(7)



This angle is _____ degrees.

(3)



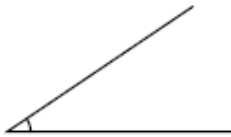
This angle is _____ degrees.

(8)



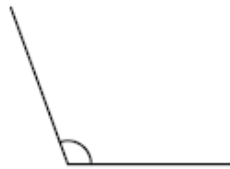
This angle is _____ degrees.

(4)

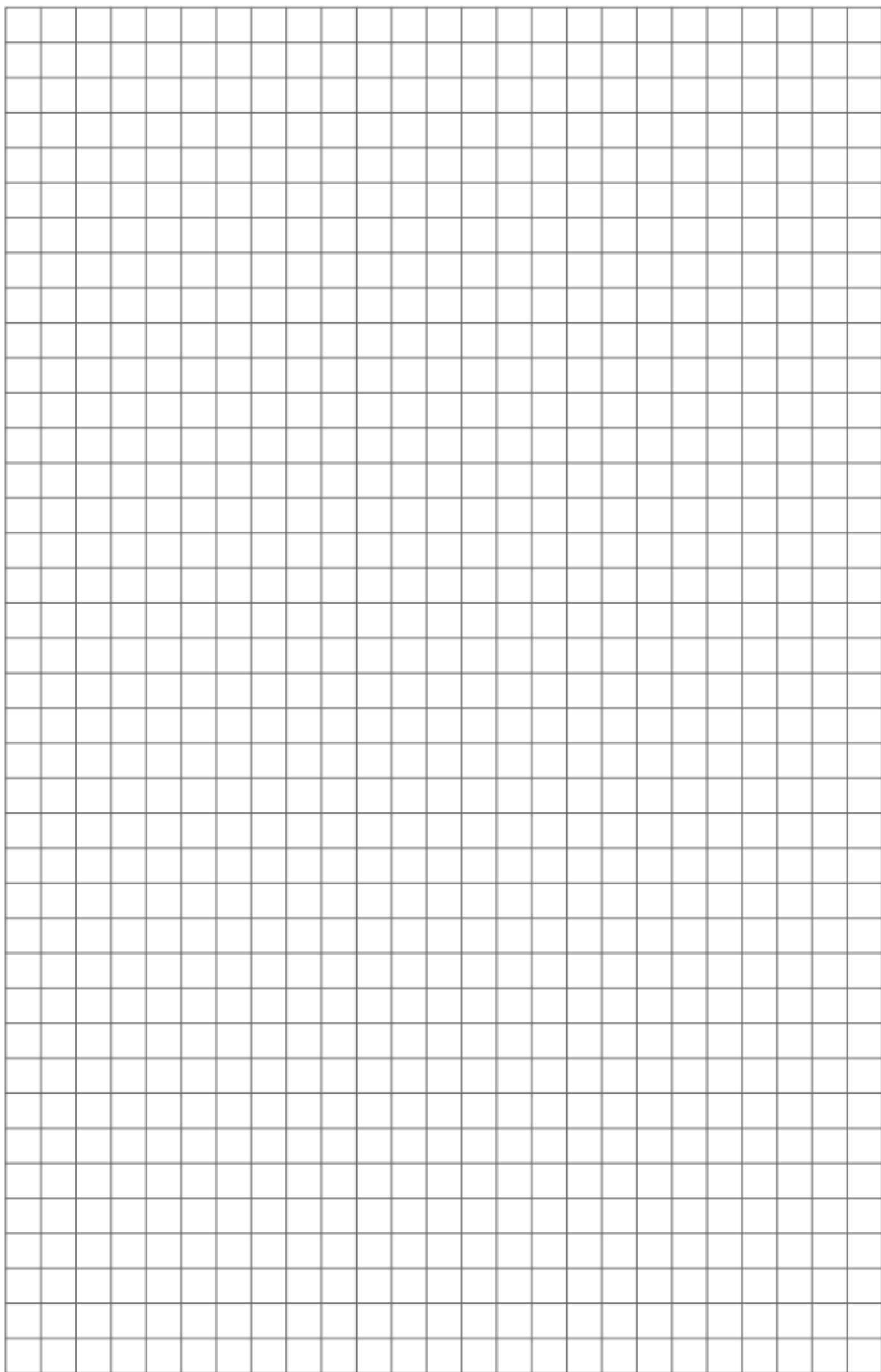


This angle is _____ degrees.

(9)



This angle is _____ degrees.



Problem Solving and Reasoning

Which angle is the odd one out?

180°

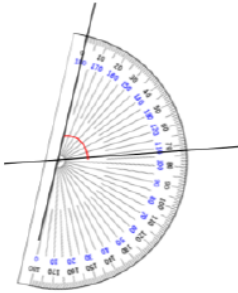
45°

79°

270°

Could another angle be the odd one out for a different reason?

Evie

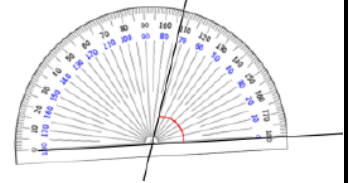


I have measured the angle correctly because my protractor is on the line accurately.

I have measured the angle correctly because my protractor is the right way round.

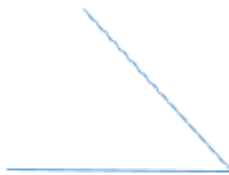


Byron



Who do you agree with?
Explain why.

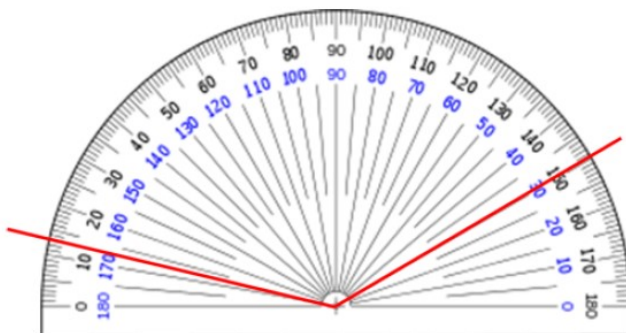
Alex measures this angle:



He says it is 130°

How do you know Alex is definitely wrong?
Explain what he has done wrong.

How many ways can you find the value of the angle?




Answers

79° is the odd one out because the others are all common angles. They would appear as a compass point. Other answers possible.





They are both correct. It doesn't matter which way the protractor is as long as it is placed on the angle correctly.

Alex is definitely wrong because 130° is an obtuse angle and the angle drawn is acute. He has read the wrong scale on the protractor. He should have measured the

Children may subtract $150 - 13 = 137^\circ$ Children may add up on the protractor as a number line e.g. $+7 +100 +30 = 137^\circ$ Discuss similarities and differences

Date	
Subject/s	Maths
Learning Objective 	To recall and use multiplication and division facts

$2 \times 2 =$	$3 \times 3 =$	$4 \times 4 =$	$11 \times 10 =$
$3 \times 5 =$	$6 \times 8 =$	$7 \times 5 =$	$10 \times 2 =$
$4 \times 6 =$	$12 \times 5 =$	$8 \times 12 =$	$3 \times 12 =$
$7 \times 4 =$	$8 \times 6 =$	$10 \times 11 =$	$4 \times 9 =$
$10 \times 10 =$	$10 \times 12 =$	$4 \times 2 =$	$5 \times 7 =$
$9 \times 3 =$	$11 \times 2 =$	$10 \times 3 =$	$9 \times 8 =$
$7 \times 2 =$	$3 \times 9 =$	$6 \times 8 =$	$10 \times 7 =$
$11 \times 3 =$	$4 \times 11 =$	$12 \times 10 =$	$7 \times 8 =$
$10 \times 5 =$	$2 \times 5 =$	$2 \times 11 =$	$4 \times 3 =$
$2 \times 4 =$	$6 \times 10 =$	$8 \times 3 =$	$12 \times 4 =$
$5 \times 6 =$	$10 \times 9 =$	$3 \times 4 =$	$5 \times 8 =$
$7 \times 10 =$	$2 \times 12 =$	$4 \times 5 =$	$8 \times 8 =$
$9 \times 2 =$	$5 \times 3 =$	$7 \times 8 =$	$12 \times 2 =$
$3 \times 11 =$	$9 \times 4 =$	$8 \times 10 =$	$5 \times 4 =$
$10 \times 4 =$	$5 \times 5 =$	$2 \times 8 =$	$9 \times 5 =$
$8 \times 5 =$	$8 \times 8 =$	$8 \times 0 =$	$8 \times 11 =$
$9 \times 8 =$	$9 \times 10 =$	$4 \times 12 =$	$2 \times 10 =$
$4 \times 10 =$	$5 \times 2 =$	$12 \times 8 =$	$4 \times 7 =$
$3 \times 2 =$	$6 \times 3 =$	$3 \times 6 =$	$11 \times 5 =$
$7 \times 3 =$	$6 \times 4 =$	$5 \times 10 =$	$2 \times 3 =$
$4 \times 8 =$	$5 \times 11 =$	$8 \times 2 =$	$8 \times 9 =$
$5 \times 9 =$	$2 \times 6 =$	$3 \times 7 =$	$8 \times 4 =$
$12 \times 8 =$	$3 \times 10 =$	$11 \times 4 =$	$11 \times 8 =$
$2 \times 9 =$	$2 \times 7 =$	$5 \times 12 =$	$12 \times 3 =$
$10 \times 8 =$	$3 \times 8 =$	$0 \times 4 =$	$8 \times 7 =$

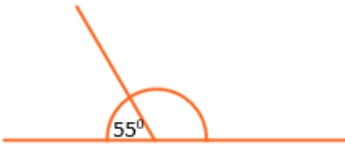
Date			
Subject/s	<u>Maths</u>		
Learning Objective	To work out angles on a straight line		
		SA	TA
			
Success Criteria 	I know angles on a straight line add to 180°		
	I know to add the angles I already know		
	I know to subtract the amount from 180degrees using mental maths or column subtraction		
Support	Independent	Adult Support ()	Group Work
Pre-task: Calculate the missing angle x 			

Teacher Led

Angles on a straight line add to 180 degrees.

To work out the missing angle below I need to subtract 55 degrees from 180 degrees because I know both numbers together must add to 180 degrees.

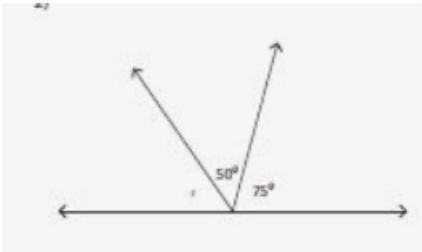
$$180 - 55 = 125 \text{ degrees}$$



On the straight line below, there are three angles in total which must all add up to 180 degrees as it is a straight line. So I need to add up what I know and then subtract it from 180 degrees.

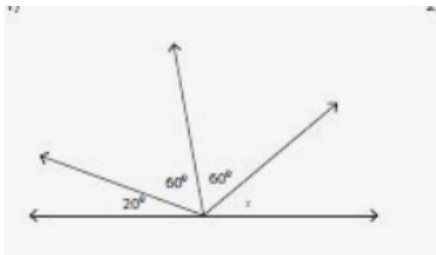
$$50 + 75 = 125 \text{ degrees}$$

$$180 - 125 = 55 \text{ degrees}$$

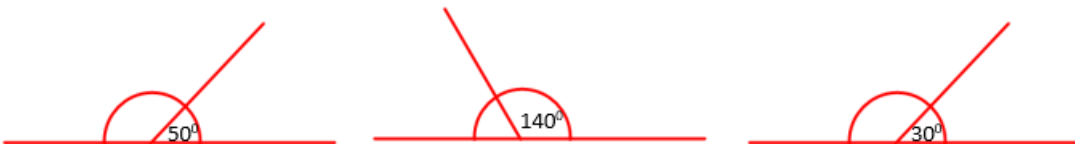


Add up what I know: $60 + 60 + 20 = 140$

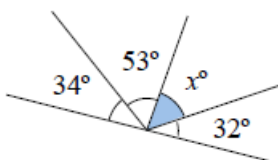
Subtract from 180: $180 - 140 = 40$ degrees



Your turn:

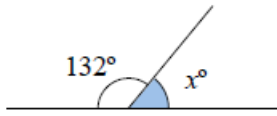


B4 Find the value x

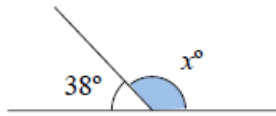


Fluency

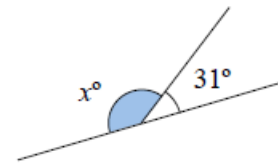
A1 Find the value x



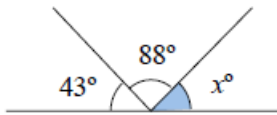
A2 Find the value x



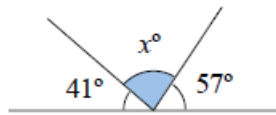
A3 Find the value x



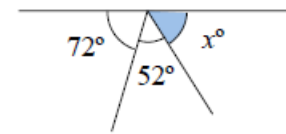
B1 Find the value x



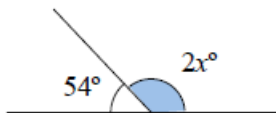
B2 Find the value x



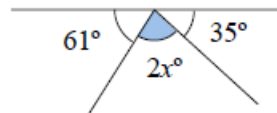
B3 Find the value x



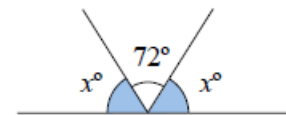
A1 Find the value x

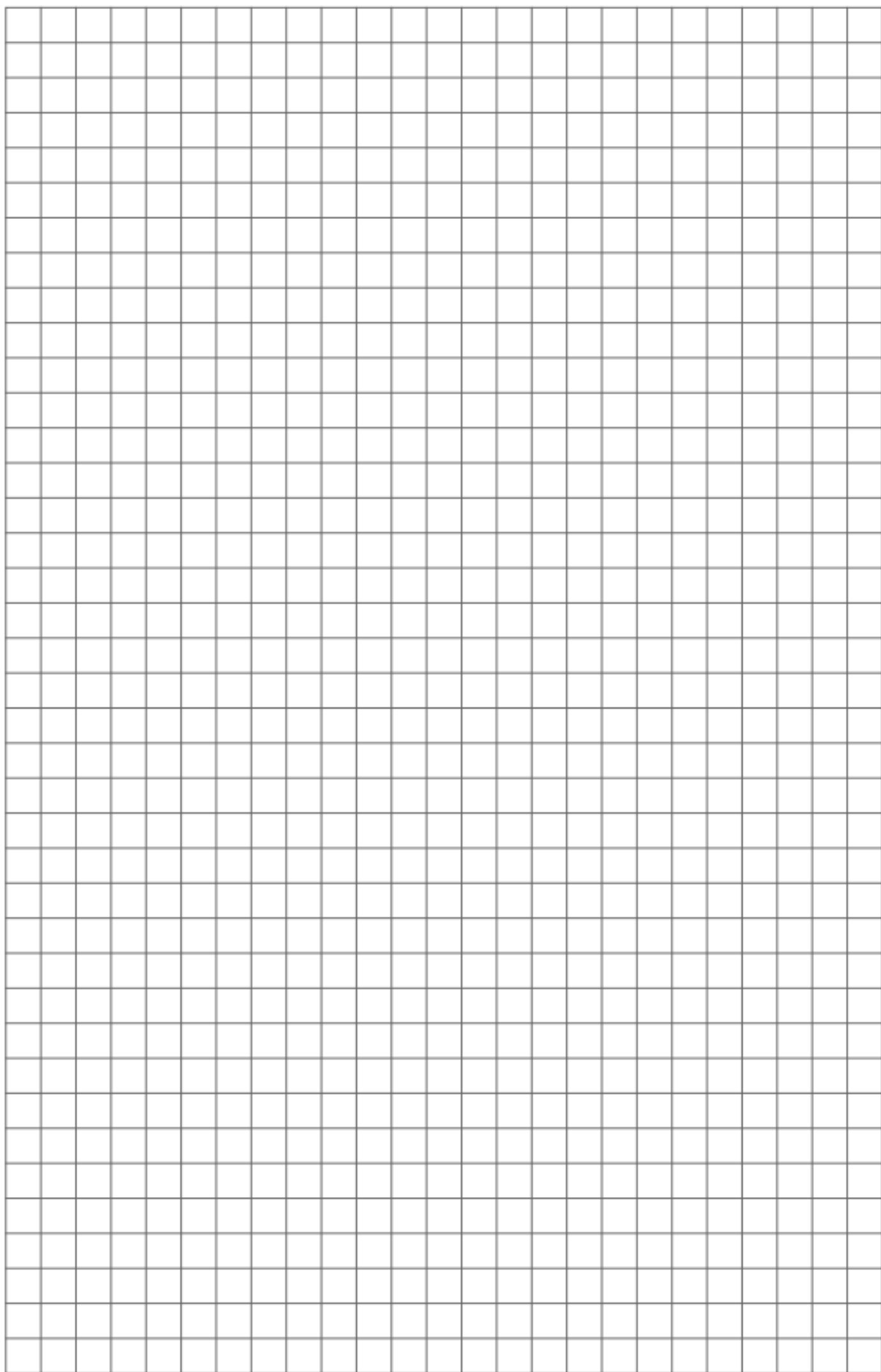


A2 Find the value x



A3 Find the value x





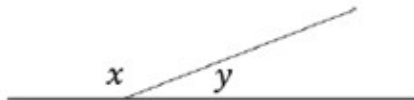
Problem Solving and Reasoning

Problem Solving and Reasoning

Use It!



Here are two angles.



Use the clues to calculate what the missing angles could be worth.

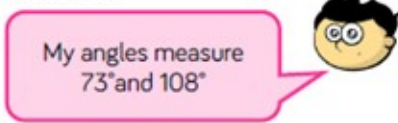
Angle x is larger than 130°

Angle y is a prime number between 40 and 50

Explain It!

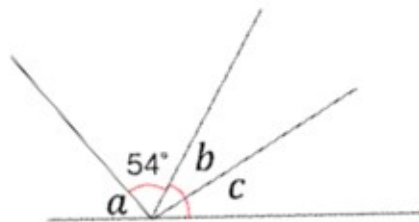


Bradley is measuring two angles on a straight line.



Explain why Bradley's angles must be wrong.

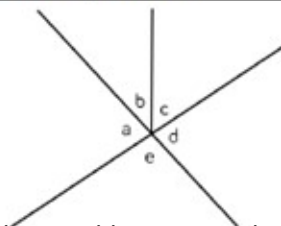
Use It!



- The total of angle b and c are the same as angle a
- Angle a is 9° more than the size of the given angle.
- Angle b is 11° more than angle c

What are the angles worth?

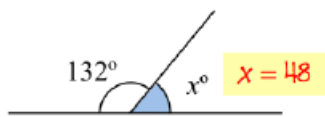
Use It!



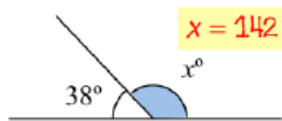
What angles above add up to 180 degrees? How many different solutions are there?

Answers

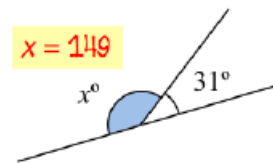
A1 Find the value x



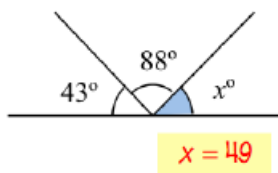
A2 Find the value x



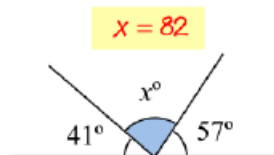
A3 Find the value x



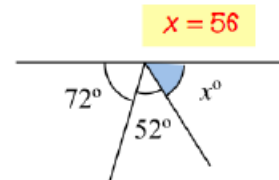
B1 Find the value x



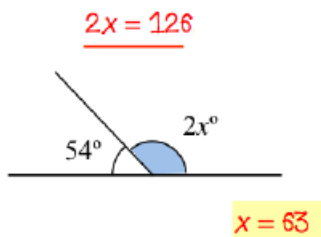
B2 Find the value x



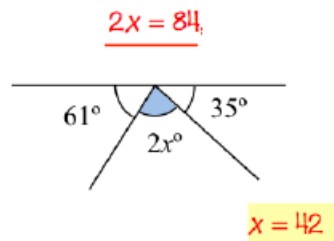
B3 Find the value x



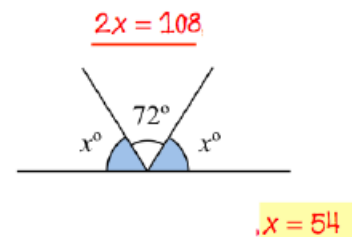
A1 Find the value x



A2 Find the value x



A3 Find the value x



Problem solving and reasoning answers

$y = 41^\circ, x = 139^\circ$

$y = 43^\circ, x = 137^\circ$

$y = 47^\circ, x = 133^\circ$

His angles total more than 180° He must have measured incorrectly.

$a = 63^\circ$

$b = 37^\circ$

$c = 26^\circ$

Various answers