Homework
Calculate Angles Around a Point

National Curriculum Objectives:

Mathematics Year 5: (5G4b) Identify angles at a point and one whole turn (total 360)

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)
Developing Match degrees and turns. All information given.
Expected Match degrees, right angles and turns. All information given.
Greater Depth Match degrees, right angles and turns. Some information missing.

Questions 2, 5 and 8 (Varied Fluency)
Developing Establish whether a statement is true or false by working out how many degrees there are in a missing angle. Increments of 5° and using 3 angles.
Expected Establish whether a statement is true or false by working out how many degrees there are in a missing angle. Increments of 1° and using 4 angles.
Greater Depth Establish whether a statement is true or false by working out how many degrees there are in a missing angle. Increments of 1° and using 5 angles.

Questions 3, 6 and 9 (Reasoning and Problem Solving)
Developing Find an error in a set of three instructions, using turns, degrees, clockwise and anti-clockwise.
Expected Find an error in a set of four instructions, using turns, right angles, degrees, clockwise and anti-clockwise.
Greater Depth Find an error in a set of five instructions, using turns, right angles, degrees, clockwise and anti-clockwise.

Calculate Angles Around a Point

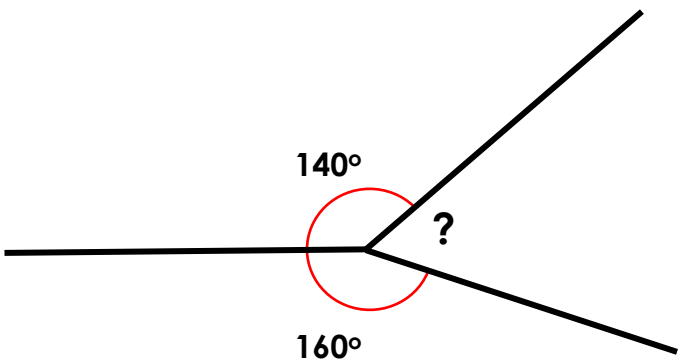
1. Draw lines to match up the correct degrees and turns.

360°	three quarter turn
180°	full turn
90°	half turn
270°	quarter turn

D

VF
HW/Ext

2. True or false? The missing angle is 50°.

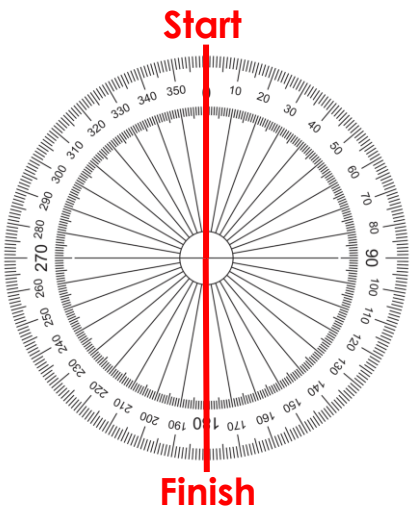


D

VF
HW/Ext

3. Ava gives these instructions. What mistake has she made? Explain your answer.

From the start, if I make a quarter turn clockwise, then a 25° turn anti-clockwise, followed by a 120° turn clockwise I will reach the finish.



D

RPS
HW/Ext

Calculate Angles Around a Point

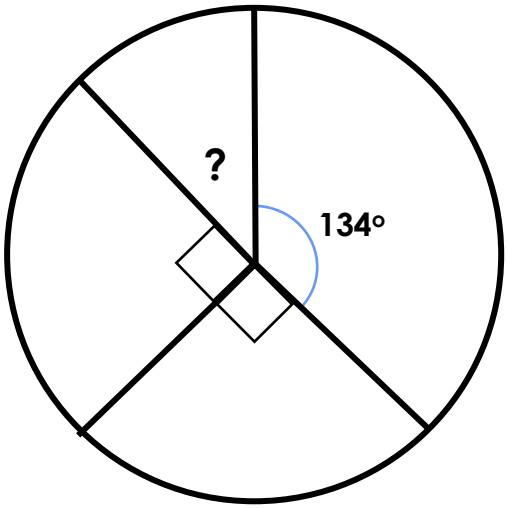
4. Draw lines to match up the correct degrees, number of right angles and turns.

360°	2 right angles	three quarter turn
180°	1 right angle	full turn
90°	3 right angles	half turn
270°	4 right angles	quarter turn

E

VF
HW/Ext

5. True or false? The missing angle is 51°.

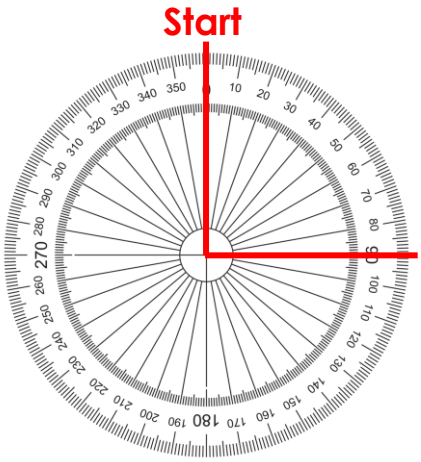


E

VF
HW/Ext

6. Jakub gives these instructions. What mistake has he made? Explain your answer.

From the start, if I make a quarter turn clockwise, then a 120° turn anti-clockwise, followed by a right-angled turn anti-clockwise and a 115° turn anti-clockwise I will reach the finish.



E

RPS
HW/Ext

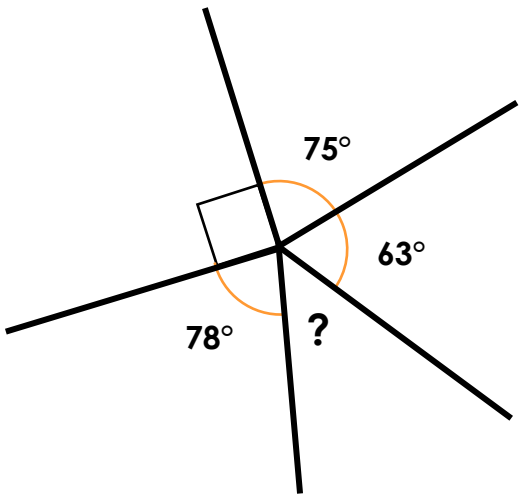
Calculate Angles Around a Point

7. Fill in the blanks and then draw lines to match up the correct degrees, number of right angles and turns.

360°	_____ right angles	three quarter turn
_____°	1 right angle	full turn
90°	3 right angles	_____ turn
_____°	_____ right angles	_____ turn

VF
HW/Ext

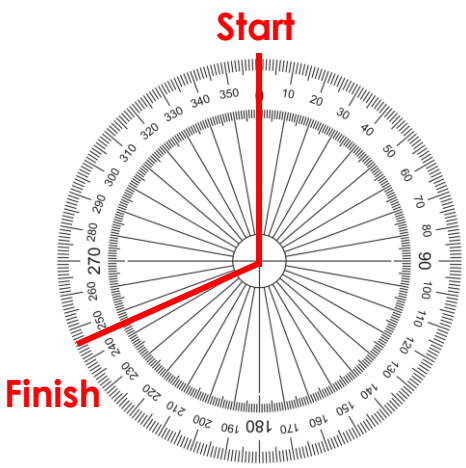
8. True or false? The missing angle is 56°.



VF
HW/Ext

9. Lena gives these instructions. What mistake has she made? Explain your answer.

From the start, if I make a half turn clockwise, then a 71° turn anti-clockwise, followed by a three right-angled turn clockwise, then a quarter turn anti-clockwise and a 19° turn anti-clockwise I will reach the finish.



RPS
HW/Ext

Homework
Calculate Angles Around a Point

Developing

1. 90° – quarter turn, 180° – half turn, 270° – three quarter turn, 360° – full turn
2. False, the missing angle is 60°.
3. The last turn should be 115°, not 120°.

Expected

4. 90° – 1 right angle – quarter turn, 180° – 2 right angles – half turn, 270° – 3 right angles – three quarter turn, 360° – 4 right angles – full turn
5. False, the missing angle is 46°.
6. The final turn should be 160°, not 115°.

Greater Depth

7. 90° – 1 right angle – quarter turn, 180° – 2 right angles – half turn, 270° – 3 right angles – three quarter turn, 360° – 4 right angles – full turn
8. False, the missing angle is 54°.
9. The last turn should be 44°, not 19°.