

# Homework/Extension

## Step 6: Calculating 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  $5^\circ$  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  $1^\circ$  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  $1^\circ$  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.

More [Year 5 Properties of Shape](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

# Calculating 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

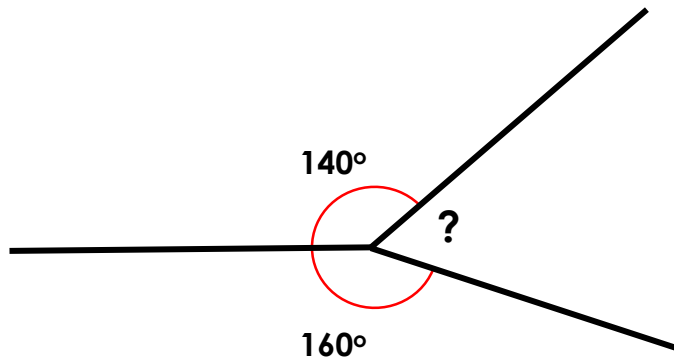
270°

quarter turn



VF  
HW/Ext

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

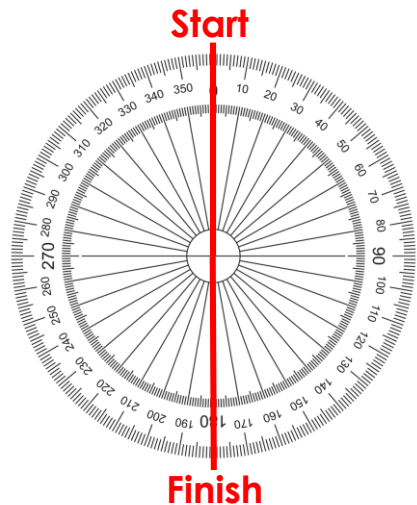


VF  
HW/Ext

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.



RPS  
HW/Ext

# Calculating 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°

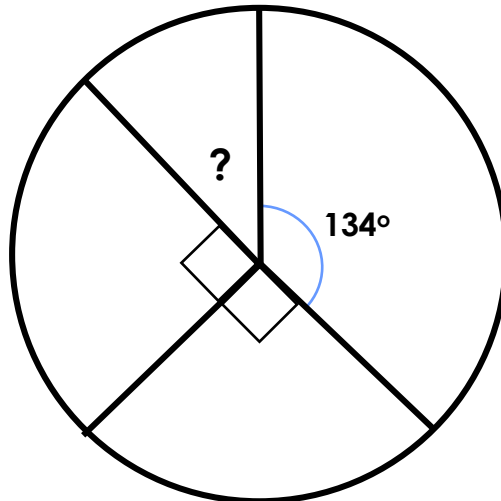
4 right angles

quarter turn



VF  
HW/Ext

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

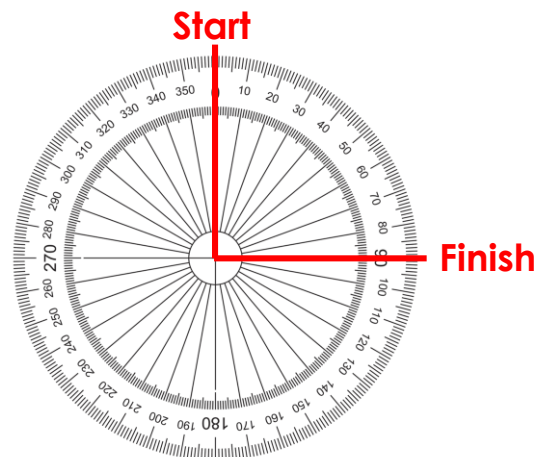


VF  
HW/Ext

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.



RPS  
HW/Ext

# Calculating 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

\_\_\_ °

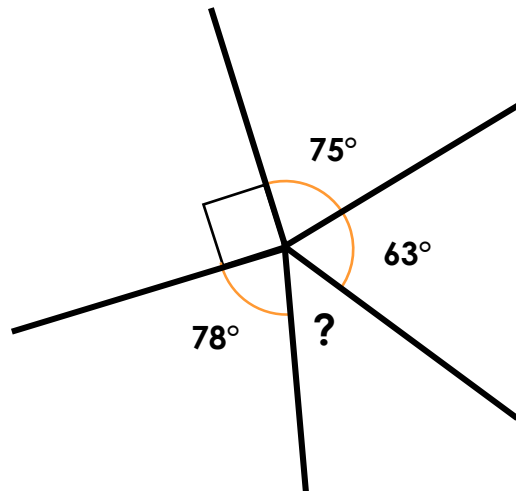
\_\_\_ right angles

\_\_\_ turn



VF  
HW/Ext

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

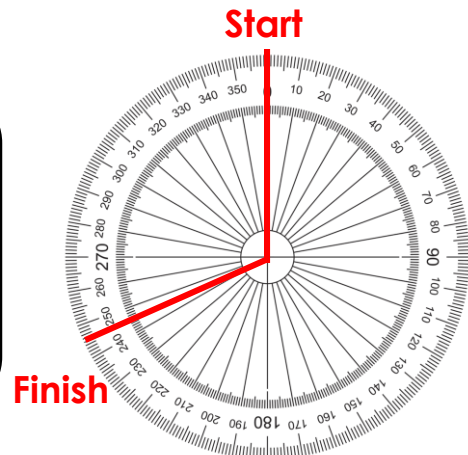


VF  
HW/Ext

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/Extension

### Calculating Angles Around a Point

#### Developing

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

#### Expected

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

#### Greater Depth

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