Homework
Understand and Use Degrees

National Curriculum Objectives:

Mathematics Year 5: (5G4a) Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
Mathematics Year 5: (5G4b) Identify angles at a point and one whole turn (total 360)
Mathematics Year 5: (5G4b) Identify angles at a point on a straight line and 1/2 a turn (total 180)
Mathematics Year 5: (5G4b) Identify other multiples of 90
Mathematics Year 5: (5G4c) Draw given angles, and measure them in degrees

Differentiation:

Questions 1, 4 and 7 (Varied Fluency)
Developing Add true or false to a number of given statements, including angles in increments of 90°. Using right angles and reflex angles.
Expected Add true or false to a number of given statements, including angles in increments of 30° and 45°. Using acute, right angle, obtuse and reflex angles.
Greater Depth Add true or false to a number of given statements, including one, or more than one angle with some crossing of a whole turn in increments of 30° and 45°. Using acute, right angle, obtuse and reflex angles.

Questions 2, 5 and 8 (Varied Fluency)
Developing Match the number of degrees to the fraction and name of the angle, including angles in increments of 90°. Using right angles and reflex angles.
Expected Match the number of degrees to the fraction and name of the angle, including angles in increments of 30° and 45°. Using acute, right angle, obtuse and reflex angles.
Greater Depth Match the number of degrees to the fraction and name of the angle, including one, or more than one angle with some crossing of a whole turn in increments of 30° and 45°. Using acute, right angle, obtuse and reflex angles.

Questions 3, 6 and 9 (Reasoning and Problem Solving)
Developing Identify the numbers the minute hand would start on when given the finishing number of 3, 6, 9 or 12, including angles in increments of 90°. Using right angles and reflex angles.
Expected Identify the numbers the minute hand would start on when given the finishing number in 5 minute increments, including angles in increments of 30°. Using acute, right angle, obtuse and reflex angles.
Greater Depth Identify the numbers the minute hand would start on when given the finishing number in 1 minute increments, including angles in increments of 30°. Using acute, right angle, obtuse and reflex angles. Some increments are shown on the clock.

Understand and Use Degrees

1. Tom has created the table below using statements about angles. Complete the table by adding true or false to each statement.

Statement	True or false?
A. I will turn through a right angle if I turn from E to S anti-clockwise.	
B. If I turn from W to S clockwise, I will turn a reflex angle.	
C. 360° is more than a whole turn.	
D. 90° is $\frac{1}{4}$ of a turn.	

D

VF
HW/Ext

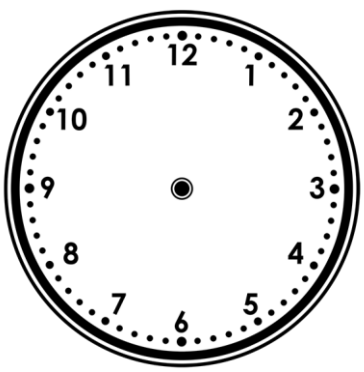
2. Draw a line to match the angle to the fraction of the turn, then match the fraction of the turn to the name of the angle.

90°	$\frac{1}{2}$	Right angle
270°	$\frac{1}{4}$	Straight angle
180°	$\frac{3}{4}$	Reflex angle

D

VF
HW/Ext

3. A minute hand starts on a number, it makes a clockwise turn that is more than 90° but less than a half turn. It finishes on the number 9.



What could the starting numbers be?

D

RPS
HW/Ext

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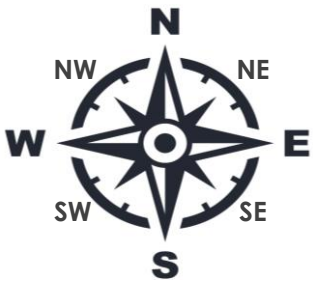
4. Evie has created the table below using statements about angles. Complete the table by adding true or false to each statement.

Statement	True or false?
A. I will turn through a reflex angle if I turn from SE to N anti-clockwise.	
B. If I turn from NW to SW anti-clockwise I will turn one right angle.	
C. 135° is smaller than an obtuse angle.	
D. 270° is $\frac{3}{4}$ of a turn.	



E

VF
HW/Ext

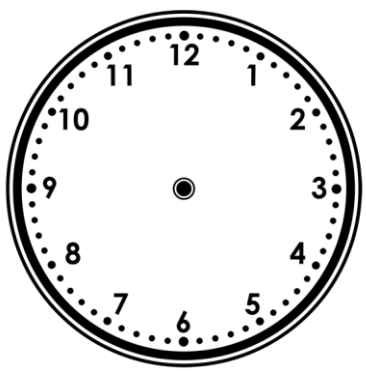
5. Draw a line to match the angle to the fraction of the turn, then match the fraction of the turn to the name of the angle.

270°	$\frac{1}{8}$	Obtuse angle
45°	$\frac{3}{4}$	Reflex angle
135°	$\frac{3}{8}$	Acute angle

E

VF
HW/Ext

6. A minute hand starts on a number, it makes a clockwise turn that is more than 100° but less than a reflex angle. It finishes on the number 8.



What could the starting numbers be?

E

RPS
HW/Ext

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7. Charlie has created the table below using statements about angles. Complete the table by adding true or false to each statement.

Statement	True or false?
A. If I turn from SW to SE anti-clockwise then SE to W clockwise I will have moved more than a whole turn.	
B. If I turn clockwise from NE to S then clockwise from S to SW I will have moved through an obtuse angle.	
C. 405° is smaller than a $1\frac{1}{4}$ turn.	
D. 225° is a straight and an acute angle combined.	

GD

VF
HW/Ext

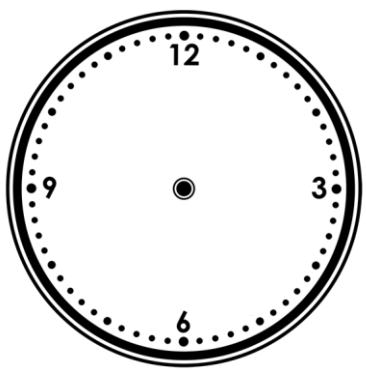
8. Draw lines to match the angle to the fraction of the turn and the name of the angle.

405°	$1\frac{1}{4}$	One whole turn and a right angle.
495°	$1\frac{3}{8}$	One whole turn and an obtuse angle.
450°	$1\frac{1}{8}$	One whole turn and an acute angle.

GD

VF
HW/Ext

9. A minute hand starts on a number of minutes, it makes a clockwise turn that is more than $\frac{5}{12}$, but less than a reflex angle. It finishes on 42 minutes.



What could the starting number of minutes be?

GD

RPS
HW/Ext

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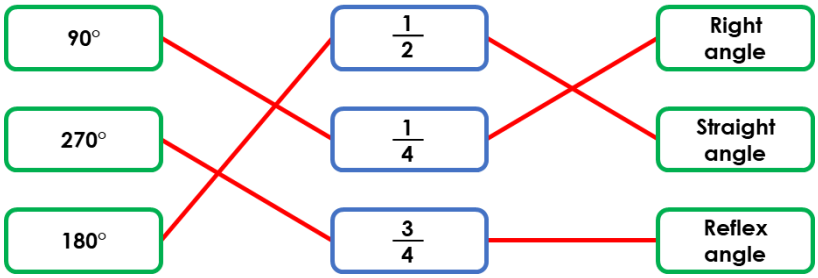
Developing

1. A is false; B is true; C is false; D is true.

2.

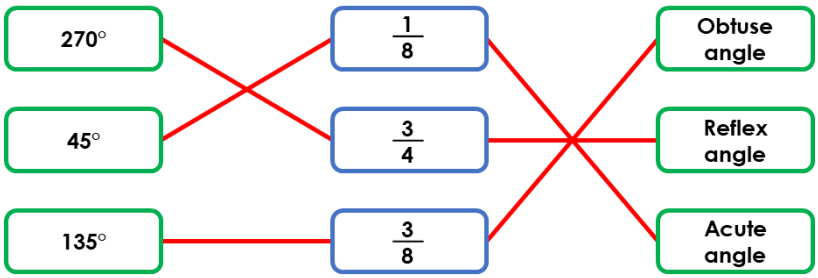


3. The starting numbers could be 4 or 5.

Expected

4. A is false; B is true; C is false; D is true.

5.

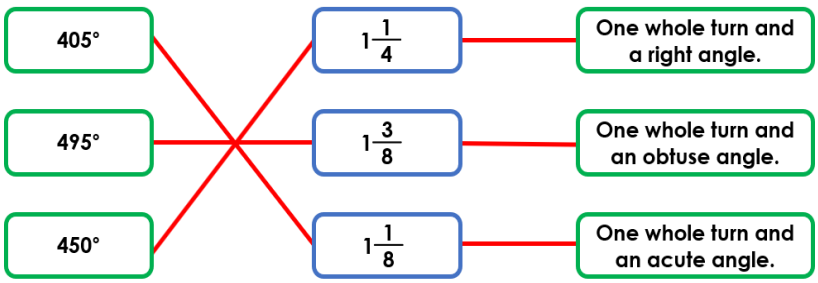


6. The starting numbers could be 4, 3 or 2.

Greater Depth

7. A is false; B is false; C is true; D is true.

8.



9. The starting numbers could be 12 minutes, 13 minutes, 14 minutes, 15 minutes or 16 minutes.