**1)** Draw lines to match the statements to the right image. Then, complete the statements.

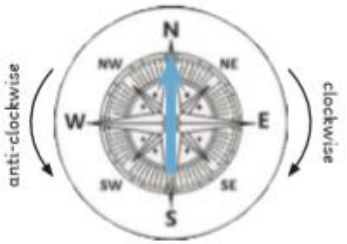
- _____ right angles
- three-quarter turn
- _____°

- 1 right angle
- quarter turn
- _____°

- 2 right angles
- half turn
- _____°

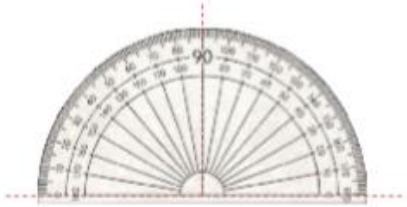
- _____ right angles
- full turn
- _____°

**2)** Use the compass below to help you fill in the table.




| | | Compass point you land on | Amount of degrees turned |
|---|---|---|---|
| a | Facing south-west, turn a half turn clockwise. | | |
| b | Facing south, turn a quarter turn anti-clockwise. | | |
| c | Facing south-east, turn a three-quarter turn anti-clockwise. | | |

**3)** True or false? Correct any incorrect statements.




**a)** There are two right angles on a straight line.

**b)** A right angle is 180°.

**c)** There are three quarter turns on a straight line.

**d)** Three right angles equal 270°.

**1)** Look carefully at each child's statement. If a statement is incorrect, correct the mistake made.

**Sadie**

"The number of degrees turned clockwise from 10 o'clock to 6 o'clock is 270°."

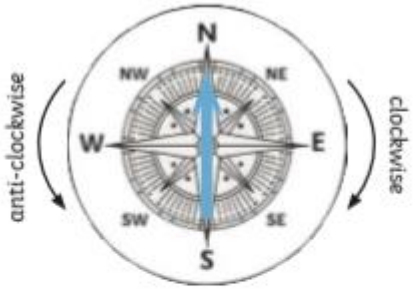
**Noah**

"The angle that is turned when the hour hand moves clockwise from 11 o'clock to 5 o'clock is the same as the angle turned when the hour hand moves clockwise from 1 o'clock to 6 o'clock."

**Ania**

"In a period of 24 hours, the hour hand will have turned through 360°."

**2)**

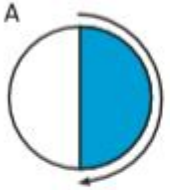



Daniel thinks that both of these turns of the compass arrow will be three quarter turns.
Is Daniel correct? Explain your answer.

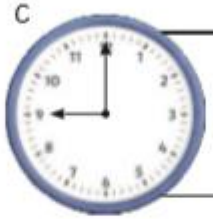
- clockwise south-east to north
- clockwise north-east to north-west

**3)** Which is the odd one out? Explain your answer.

A

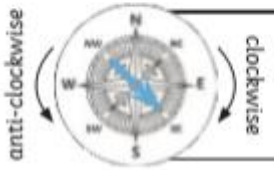


C



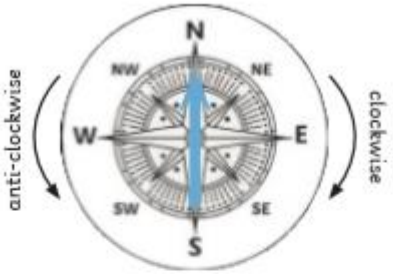
The hour hand, six hours later than the time shown.

B




A clockwise turn from SE to W.

**1) a)** Complete the statement about the compass.




Each clockwise or anti-clockwise turn from one compass point to the next point measures:

_____

**b)** A ship's captain is plotting a course using a compass. During the ship's journey it needs to make certain turns. Fill in the table to show how many degrees the ship turns each time it changes course.

| Turn | Degrees |
|---|---|
| NW to S clockwise | |
| S to NE anti-clockwise | |
| NE to S anti-clockwise | |
| S to E clockwise | |

**c)** Will the ship have completed more than two full turns by the time it has completed its journey? Explain your answer.

**2)** Complete the statements about a clock:
It would take _____ minutes for the minute hand to travel once around a clock in an hour.
It will have turned through _____°.
The minute hand will turn _____° every minute.

**3)**


**a)** What time will this clock show when the minute hand has turned through 42°?

**b)** The minute hand turns another 12 minutes. How many degrees past the digit 12 is the minute hand now?

**4)**


**a)** Look at the clock. The minute hand moves until it shows a new time of 3:43pm. Through how many degrees has the minute hand turned?

# ANSWERS

**1)**

| | | | |
|---|---|---|---|
| • **3** right angles<br>• three- quarter turn<br>• **270°** | • 1 right angle<br>• quarter turn<br>• **90°** | • 2 right angles<br>• half turn<br>• **180°** | • **4** right angles<br>• full turn<br>• **360°** |

**2)**

| | | Compass point you land on | Amount of degrees turned |
|---|---|---|---|
| a | Facing south-west, turn a half turn clockwise. | **north-east** | **180°** |
| b | Facing south, turn a quarter turn anti-clockwise. | **east** | **90°** |
| c | Facing south-east, turn a three-quarter turn anti-clockwise. | **south-west** | **270°** |

**3) a) True.**

**b) False, a right angle is 90°.**

**c) False, there are two-quarter turns, or a half turn, on a straight line.**

**d) True.**

1) a) Sadie is incorrect. It would have to be from 9 o'clock to 6 o'clock or from 10 o'clock to 7 o'clock to have turned through 270°.

b) Noah is incorrect. The hour hand will have turned through 180° from 11 o'clock to 5 o'clock and would need to turn from 1 o'clock to 7 o'clock in order to also turn 180°.

c) Ania is incorrect. In each 12-hour period, the hour hand turns 360°, therefore, in 24 hours the hour hand will have turned through 720°.

2) Daniel is incorrect. North-east to north-west is a three-quarter turn (270°). However, south-east to north is less than a three-quarter turn (further explanation may be given of the number of degrees being 45° less).

3) B is the odd one out as this is the only statement/picture that doesn't show a half turn of 180°.

1) a) **45°**

b)

| Turn | Degrees |
|---|---|
| NW to S clockwise | **225°** |
| S to NE anti-clockwise | **135°** |
| NE to S anti-clockwise | **225°** |
| S to E clockwise | **270°** |

**2)** It would take **60** minutes for the minute hand to travel once around a clock in an hour.
It will have turned through **360°**.
The minute hand will turn **6°** every minute.

**3) a) The time shown will be 11:32am.**

**b) 264°: the time is 11:44am, 44 minutes is 264°.**

**4) 288°**