

Unit 3: Turns and 8-Point Compass

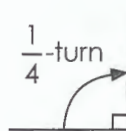
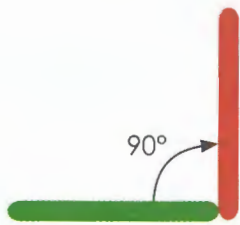
You will learn to...

- relate turns to right angles
- tell directions using an 8-point compass

Lesson 1: Relating turns to right angles

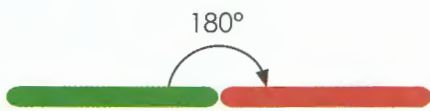
Let's Learn

a) One right angle



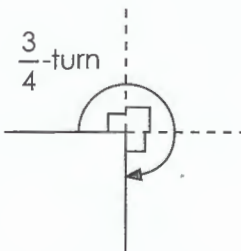
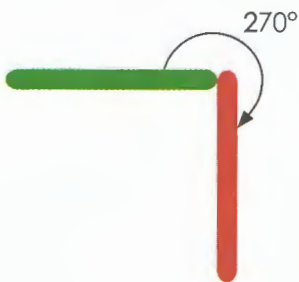
A $\frac{1}{4}$ -turn measures 90° .

Two right angles



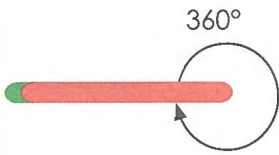
A $\frac{1}{2}$ -turn measures 180° .

Three right angles

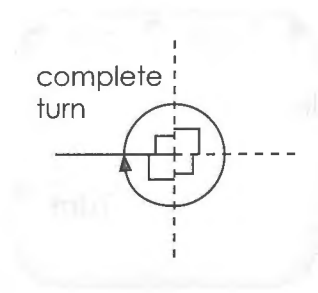


A $\frac{3}{4}$ -turn measures 270° .

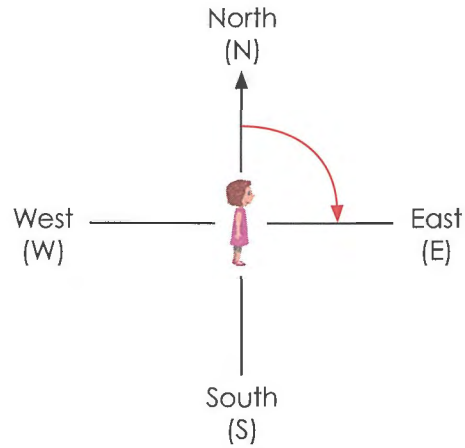
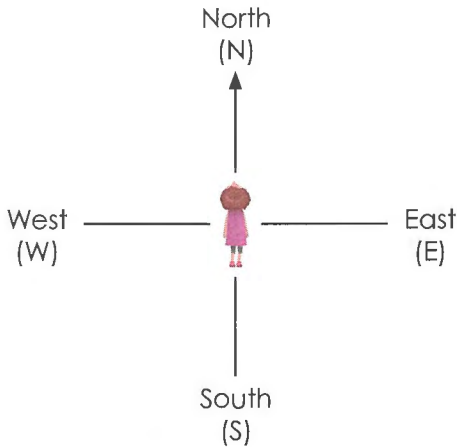
Four right angles



A complete turn measures 360° .

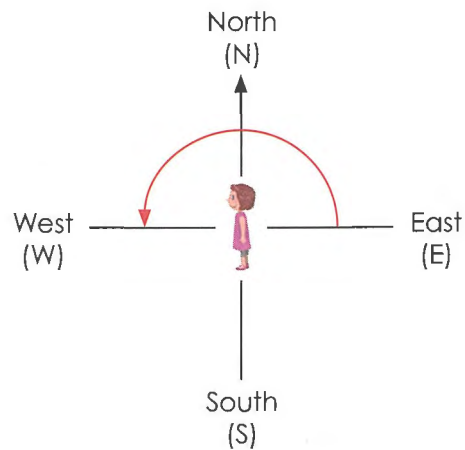
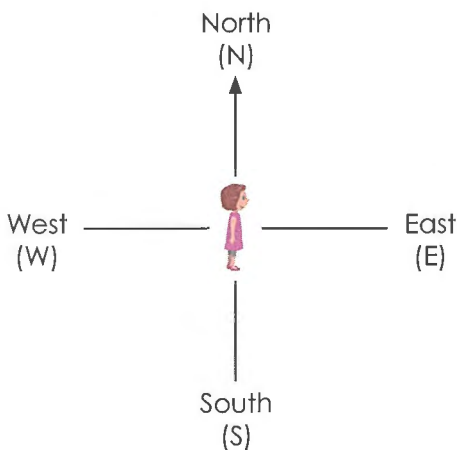


- b) Jess is facing north. She makes a $\frac{1}{4}$ -turn in the **clockwise** direction.



She now faces east.

- c) She then turns 180° in the **anticlockwise** direction.



She now faces west.

Which direction, north, south, east or west will Jess face if she turns 180° in the clockwise direction?

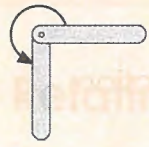
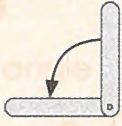



We can also say that Jess makes a $\frac{1}{2}$ -turn or turns 2 right angles in the anticlockwise direction.



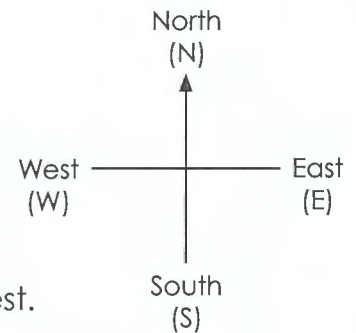
Let's Do

1. Complete the table.

	Turn	Number of right angles	Angle measure
a) 	$\frac{3}{4}$		
b) 		1	
c) 			180°

2. Circle the correct answers.

- a) Anil is facing north. He turns **90° / 180° / 270° / 360°** in the clockwise direction. He now faces south.
- b) Anil is facing east. He turns **1 / 2 / 3 / 4** right angles in the clockwise direction. He now faces east.
- c) Anil is facing **north / south / east / west**. He makes a $\frac{1}{4}$ -turn in the anticlockwise direction. He now faces west.



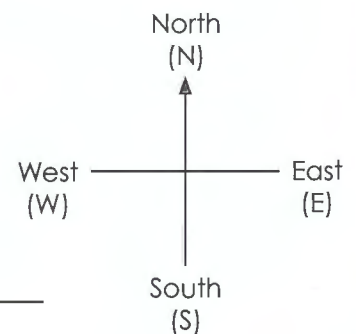
Let's Practise

1. Fill in the blanks.

- a) _____ right angles make up a $\frac{3}{4}$ -turn.
- b) One complete turn measures _____.

2. Fill in the blanks.

- a) Tom is facing _____. He turns 270° in the anticlockwise direction. He now faces east.
- b) Sue is facing south. She turns _____ right angles in the anticlockwise direction. She now faces north.
- c) Ling is facing west. She turns 270° in the _____ direction. She now faces south.



Lesson 2: Telling directions using an 8-point compass

Let's Learn

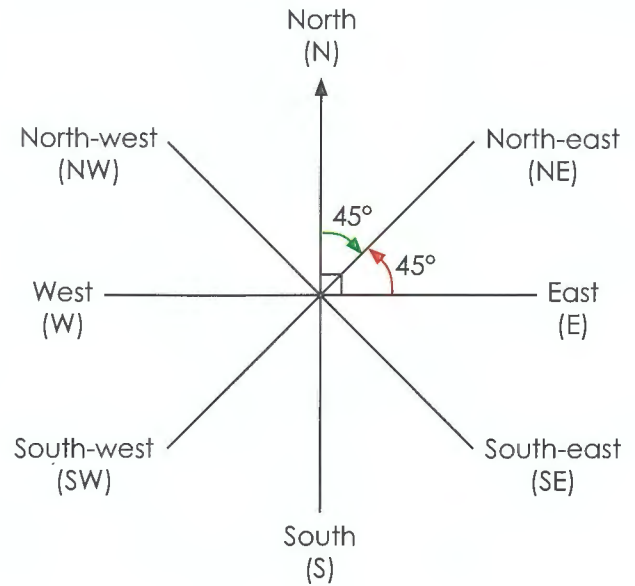
a) We can tell directions using an **8-point compass**.

East is 90° away from north.
So, north-east is 45° away from north and from east.

Similarly, south-east is 45° away from south and from east.


South-west is 45° away from south and from west.

North-west is 45° away from _____ and from _____.



b) This map shows the locations of some places in Jane's town.



The  symbol on a map tells us which way north is.



The school is north of the bus stop.

The _____ is west of the bus stop.

The supermarket is south-east of the bus stop.

The hospital is _____ of the bus stop.

Jane is now standing at the bus stop.

c) Jane is facing north. She turns 45° in the clockwise direction.

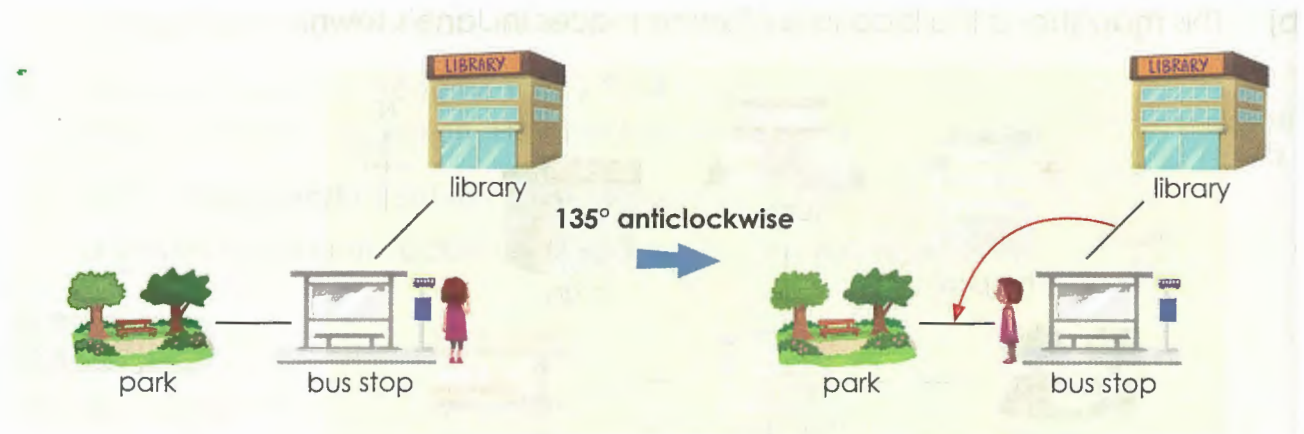


Jane now faces the library.

Jane is now facing north-east.



d) Jane is facing north-east. She turns 135° in the anticlockwise direction.



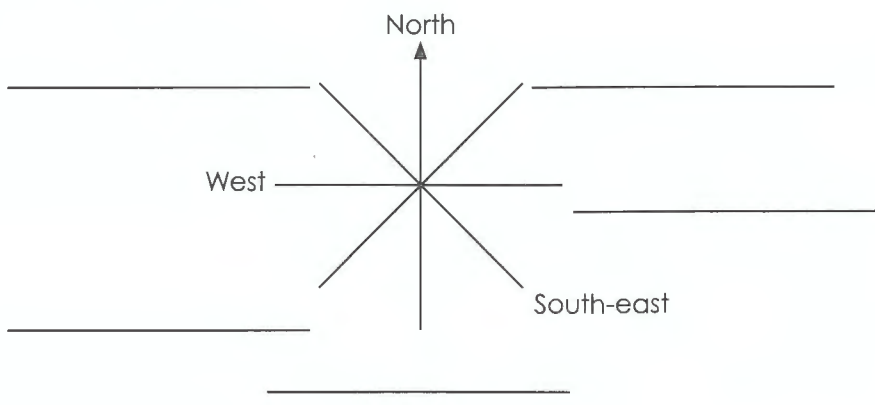
Jane now faces the park.

Jane is now facing west.



Let's Do

1. Fill in the missing directions.



2. This map shows the locations of some places in a town.



Complete the table below.

Place	Direction from the town hall
zoo	north-east
hospital	south-east
garden	

3. James is standing in the centre of the city park.



Fill in the blanks.

- James is facing west. If he turns 45° in the clockwise direction, he will face the _____.
- James is facing east. If he turns 270° in the _____ direction, he will face the bus station.
- James is facing north-east. If he turns _____ in the clockwise direction, he will face the community centre.
- James is facing _____. If he turns 135° in the anticlockwise direction, he will face the police station.

Let's Practise

1. This map shows the locations of some places in a town. Kumar is standing at the fountain.



Fill in the blanks.

- The market is _____ of Kumar.
- The _____ is south of Kumar.
- The tower is _____ of Kumar.
- The _____ is north-east of Kumar.
- The zoo is _____ of Kumar.
- The _____ is south-east of Kumar.

2. Fill in the blanks.

- a) Kirra is facing north-east. She will face _____ if she turns 135° in the clockwise direction.
- b) Osman is facing west. He will face north-west if he turns _____ in the anticlockwise direction.
- c) Ming is facing south-west. He will face _____ if he turns 180° .

3. Ryan is standing in the centre of a town.



Complete the table.

Ryan is facing the	If Ryan turns	Ryan will face the
courthouse	45° clockwise	
bridge	360° clockwise	
garden	_____ anticlockwise	swimming pool
tower	_____ clockwise	swimming pool
	315° anticlockwise	train station
	135° clockwise	garden