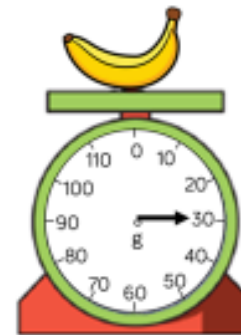SIMMERING BRONZE

Flashback 4

What shape is this?

1) What is the mass of the banana?

2) A programme starts at half past 9
   It lasts for 10 minutes.
   What time does it end?
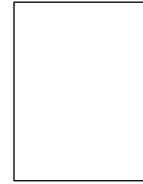
3) What time is shown on the clock?
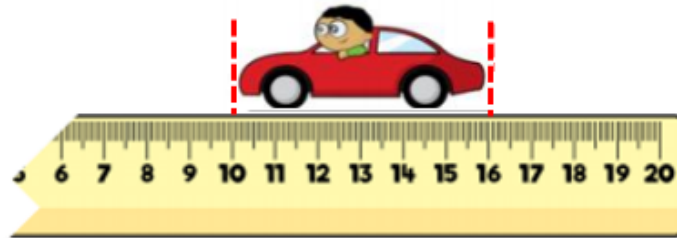
4) What is half of 30?

White Rose Maths

Flashback 4

What shape is this?
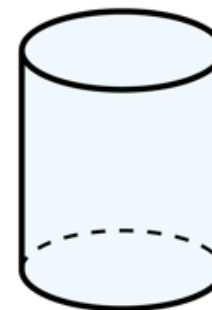
1) Which is heavier, 10 kg or 100 g?

2) How long is the car?

3) How many degrees does the minute hand on a clock turn between o'clock and half past?
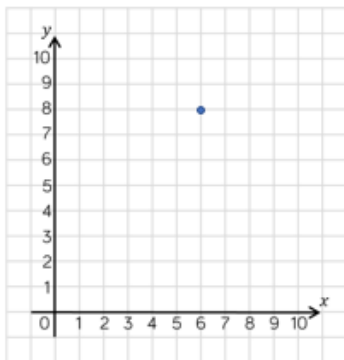
4) How many hundreds are equal to 60 tens?

White Rose Maths

Flashback 4

What shape is this?

1) Write the coordinates of the point shown.

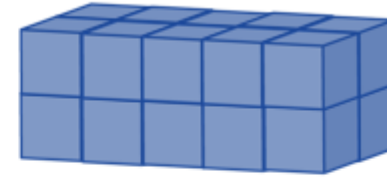2) How many lines of symmetry does an equilateral triangle have?

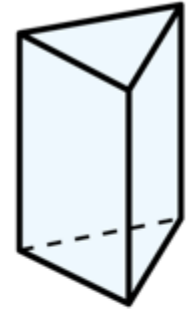3) An angle measures 34°. What type of angle is it?

4) What is 48 divided by 6?

White Rose Maths

Flashback 4

What shape is this?

1) Each cube has a length of 1 cm.
What is the volume of the shape?

2) How many cm are the same as 6.25 m?

3) Complete the number sentence using <, > or =

4,752 ml ⬤ 4.725 l

4) Convert $\frac{16}{5}$ into a mixed number.

White Rose Maths

Flashback 4

cylinder

1)   What is the mass of the banana?

      30 g
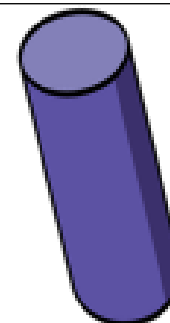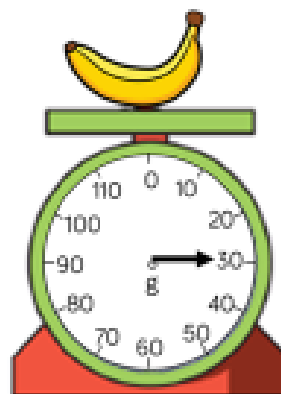
2)   A programme starts at half past 9
      It lasts for 10 minutes.
      What time does it end?   **20 to 10**
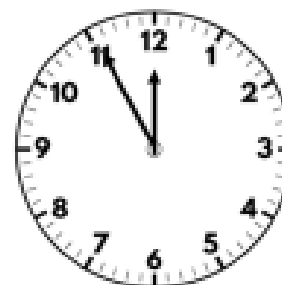
3)   What time is shown on the clock?   **5 to 12**

4)   What is half of 30?   **15**

White Rose Maths

Flashback 4

pentagonal prism

1) Which is heavier, 10 kg or 100 g? **10 kg**

2) How long is the car?

6 cm

3) How many degrees does the minute hand on a clock turn between o'clock and half past? **180°**

4) How many hundreds are equal to 60 tens? **6**

White Rose Maths
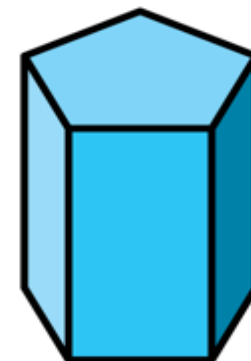
Flashback 4

cyclinder

1) Write the coordinates of the point shown.

(6 , 8)

2) How many lines of symmetry does an equilateral triangle have?   3

3) An angle measures 34°. What type of angle is it?

acute angle

4) What is 48 divided by 6?   8

White Rose Maths

Flashback 4

Triangular prism

1) Each cube has a length of 1 cm. What is the volume of the shape?
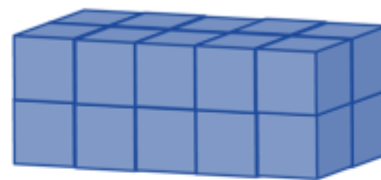
20 cm^3

2) How many cm are the same as 6.25 m?

625 cm

3) Complete the number sentence using <, > or =

4,752 ml (**>**) 4.725 l

4) Convert $\frac{16}{5}$ into a mixed number.
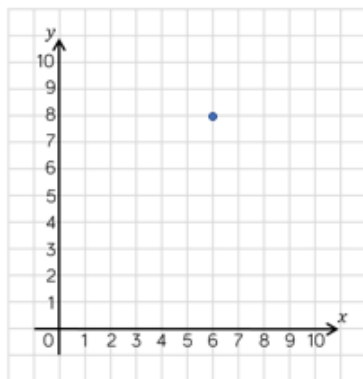
$3\frac{1}{5}$

White Rose Maths

Describing turns

1 Match the picture to the turn.

full turn   half turn   quarter turn

2 First, the arrow is pointing up.

Then, it turns half a turn.

a) Draw to show what the arrow looks like now.
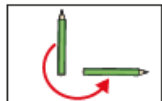
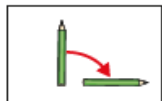**b)** Complete the sentence.

Now, the arrow is pointing _____ .

3 Match the picture to the turn.

| quarter turn clockwise |
| quarter turn anticlockwise |
| three-quarter turn clockwise |
| three-quarter turn anticlockwise |

4 Draw to show what the triangle will look like after each turn.

a) A quarter turn clockwise.

b) A three-quarter turn anticlockwise.

What do you notice?

5 Choose words from the word bank to complete the sentence for each picture.

quarter   half   three-quarter

clockwise   anticlockwise

The _____ has turned a
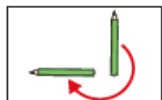
_____ turn _____ .

a)   before   after

4 Draw to show what the triangle will look like after each turn.

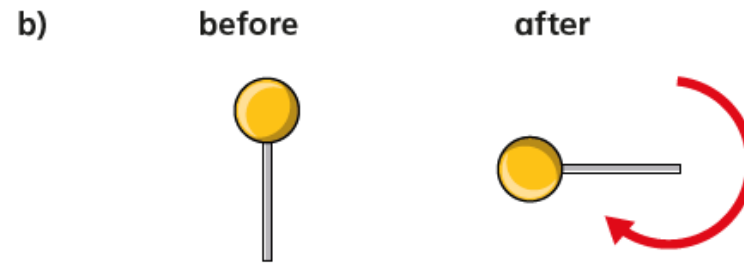a) A quarter turn clockwise.

b) A three-quarter turn anticlockwise.

What do you notice?

5 Choose words from the word bank to complete the sentence for each picture.

| quarter | half | three-quarter |

| clockwise | anticlockwise |

The _____ has turned a

_____ turn _____.

a)   **before**   **after**

b)   **before**   **after**

c)   **before**   **after**

6 A square has been turned.

before   **after**
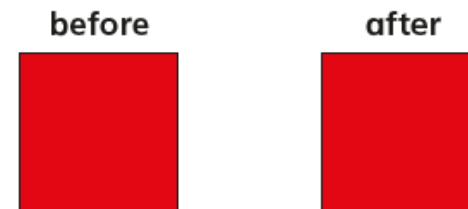
Complete the sentence.

The square has turned a _____

turn _____.

Is there more than one answer?

Turns and angles

1 Which pictures show at least one angle?

Compare answers with a partner.

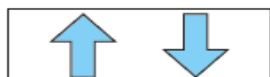**2** The arrows are being turned clockwise.
Match the picture to the turn.

	half turn
	quarter turn
	full turn
	three-quarter turn

3 Here is a compass.

a) Aisha is facing north. She turns a quarter turn clockwise.
What direction is she facing now?

b) Tommy is facing north. He turns a quarter turn anticlockwise.
What direction is he facing now?

c) Annie is facing east. She turns a three-quarter turn clockwise.
What direction is she facing now?

4 Mo and Eva are answering a question.

Mr Lee is facing west. He turns a half turn.
What direction is he facing now?

I cannot answer this because we don't know what direction he turns in.

Mo

It does not matter about the direction!

Eva

Who do you agree with? Talk about it with a partner.

5 Esther and Brett are showing what time it will be in a quarter of an hour.

Here is the time now.

Here are their answers.

Esther   Brett

Who is correct? Talk about it with a partner.

c) Annie is facing east. She turns a three-quarter turn clockwise. What direction is she facing now?

4 Mo and Eva are answering a question.

> Mr Lee is facing west. He turns a half turn. What direction is he facing now?

Mo: I cannot answer this because we don't know what direction he turns in.

Eva: It does not matter about the direction!

Who do you agree with? Talk about it with a partner.

5 Esther and Brett are showing what time it will be in a quarter of an hour.

Here is the time now.

Here are their answers.

Esther   **Brett**

Who is correct? Talk about it with a partner.

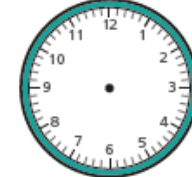**6** Draw hands on the clocks to show the new times.
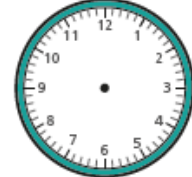
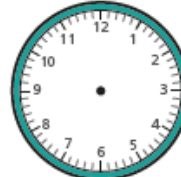a) half an hour later

b) quarter of an hour later

c) three-quarters of an hour later

d) half an hour later

7 A figure skater is facing the direction shown. She turns a quarter turn clockwise and then a three-quarter turn clockwise.

a) Draw on the picture to show that she ends up facing the same way as she started.

b) What other turns could she make and still end up facing the same way?
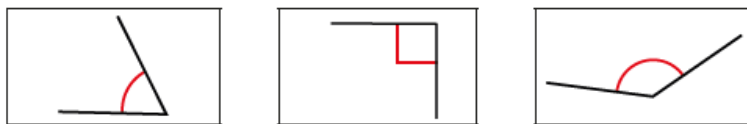
Compare answers with a partner.
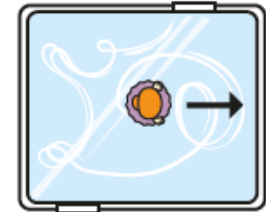
Identify angles

1 Complete the sentences.

Use the word bank to help you.

| 90 | 180 | greater | less |

a) A right angle is ☐ degrees.

b) An acute angle is _____ than ☐ degrees.

c) An obtuse angle is _____ than ☐ degrees

but less than ☐ degrees.

2 Match the angles to the labels.

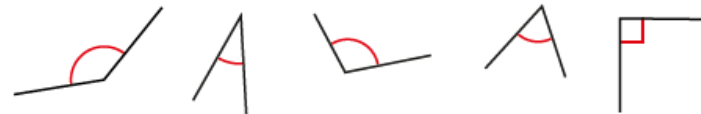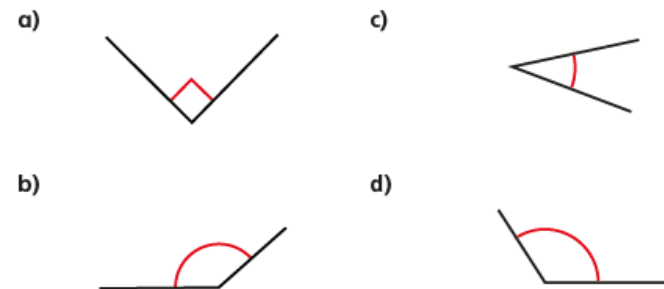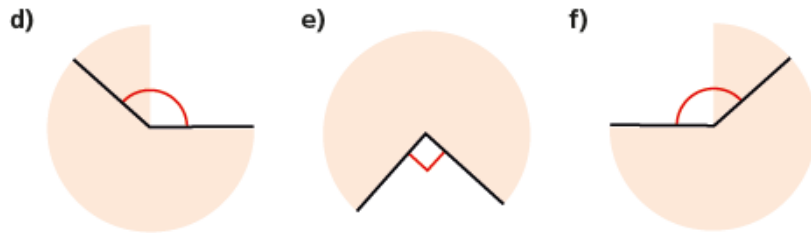| right angle | acute angle | obtuse angle |

3 Label the angles: acute, obtuse or right angle.

a) b) c)

d) e) f)

4 Which are acute angles?

5 Which are obtuse angles?

6 Label the angles: acute, obtuse or right angle.

a) c)

b) d)

d)   e)   f)

4 Which are acute angles?

5 Which are obtuse angles?

6 Label the angles: acute, obtuse or right angle.

a)   c)

b)   d)
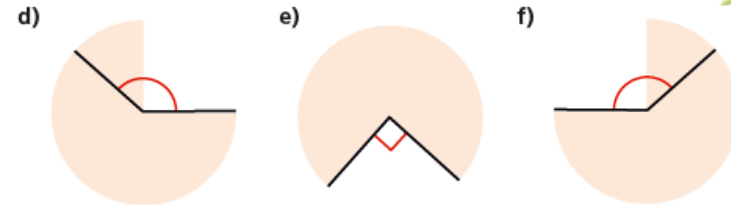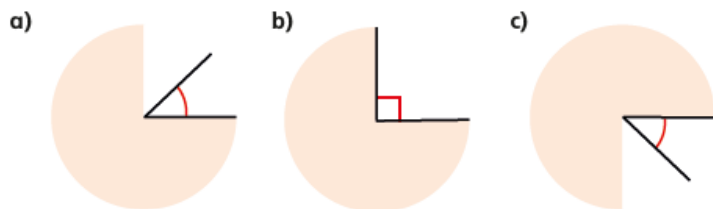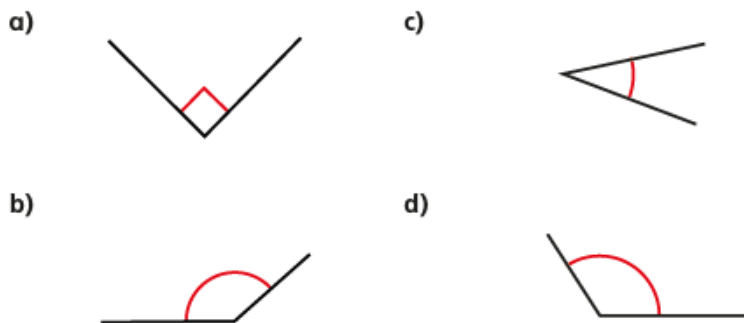
7 Is the angle acute, obtuse or a right angle?

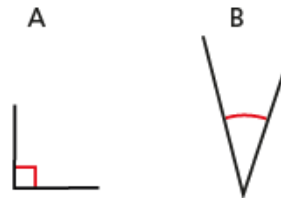a) 35°   c) 90°   e) 121°

b) 99°   d) 89°   f) 179°

How do you know?

8

> Angle B is obtuse because it's bigger than the right angle.

A   B

Do you agree with Teddy?

Explain your answer.

**9** Are the statements always true, sometimes true or never true?

Explain your answer.

a) An obtuse angle is a greater turn than an acute angle.

b) An acute angle is a greater turn than a right angle turn.

c) If you turn through two acute angles you will have turned through an obtuse angle.
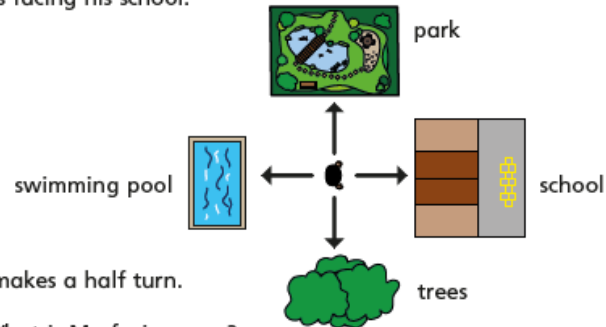
Measuring angles in degrees

White Rose Maths

1 Eva is facing her house.

She makes a full turn.

a) What is Eva facing now?

b) How many degrees has Eva turned through?
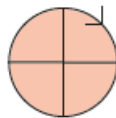
2 Mo is facing his school.

park

swimming pool
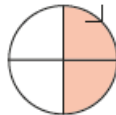
school

trees
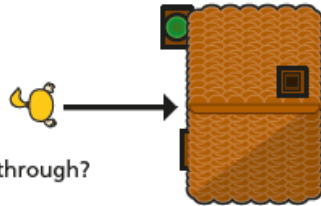
Mo makes a half turn.

a) What is Mo facing now?

b) How many degrees did Mo turn through?

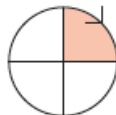**3** Complete the sentences.

a) There are ☐ degrees in a full turn.

b) There are ☐ degrees in half a full turn.

c) There are ☐ degrees in quarter of a full turn.

4 Whitney is facing the school.

school

cafe

hospital

park

Whitney turns half a turn.

What is she now facing?

Does it matter which way she turns?

5 Amir, Annie, Jack and Filip are standing at point A.

bank

school ——— A ——— house

bakery

a) Amir is facing the bank.

He turns 90 degrees clockwise.

What is Amir facing now?

b) Amir faces the bank again.

This time he turns 90° anticlockwise.

What is he now facing?

c) Jack is facing the house.

He makes a 90° turn.

What could he now be facing?

4 Whitney is facing the school.

school

cafe

hospital
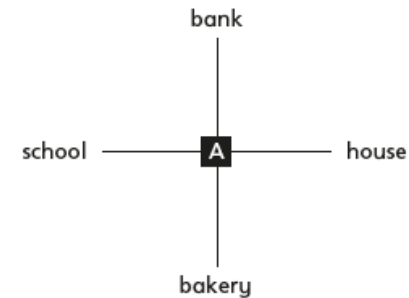
park

Whitney turns half a turn.

What is she now facing?

Does it matter which way she turns?

5 Amir, Annie, Jack and Filip are standing at point A.
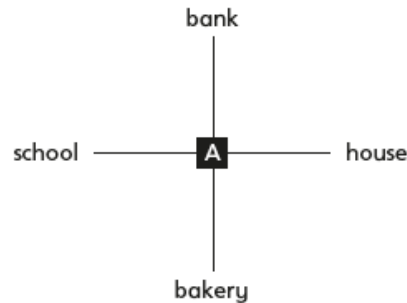
bank

school ——— A ——— house

bakery

a) Amir is facing the bank.

He turns 90 degrees clockwise.

What is Amir facing now?

b) Amir faces the bank again.

This time he turns 90° anticlockwise.

What is he now facing?

c) Jack is facing the house.

He makes a 90° turn.

What could he now be facing?

d) Filip is facing the school.

He turns to face the house.

How many degrees did he turn through?

e) Annie is facing the bakery.

She turns to face the school.
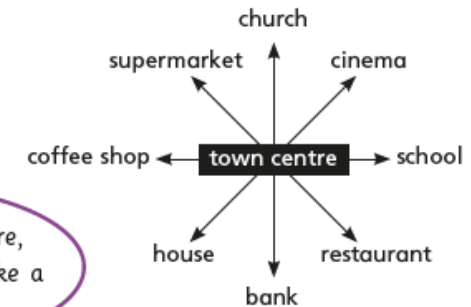
Describe two different turns she could have made.

6 Ron is standing in the park.

He is facing forward and looking at a slide.

He makes a 180 degree turn and is now facing a bench.

He now makes a 90 degree turn and is facing a tree.

Draw a possible diagram of the park.

Compare your diagram with a partner's diagram.

What is the same and what is different about your diagrams?

7 The diagram shows the direction of some places in relation to the centre of a town.

church

supermarket   cinema

coffee shop ← town centre → school

house   restaurant

bank

I am in the town centre, facing the cinema. I make a 90° turn clockwise.

What is Tommy facing now?

Create your own problem like this for a partner.

Describing turns

1 Match the picture to the turn.

full turn

half turn

quarter turn

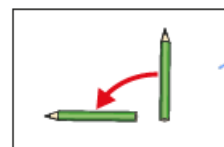**2** First, the arrow is pointing up.

Then, it turns half a turn.

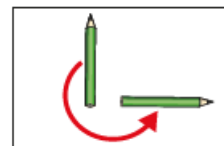**a)** Draw to show what the arrow looks like now.

b) Complete the sentence.
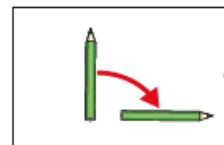
Now, the arrow is pointing _down_.
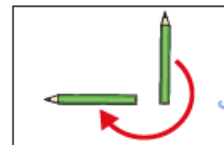
3 Match the picture to the turn.

quarter turn clockwise

quarter turn anticlockwise

three-quarter turn clockwise

three-quarter turn anticlockwise

4 Draw to show what the triangle will look like after each turn.

a) A quarter turn clockwise.

b) A three-quarter turn anticlockwise.

What do you notice?

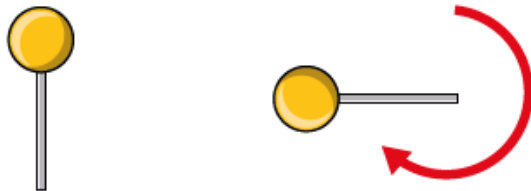5. Choose words from the word bank to complete the sentences.

quarter   half   three-quarter

clockwise   anticlockwise

a)   **before**   **after**

The ladybird has turned a ___quarter___

turn ___clockwise___ .

b)   **before**   **after**

The lollipop has turned a ___three-quarter___

turn ___clockwise___ .

c)   **before**   **after**

The apple has turned a ___half___

turn ___anti-clockwise___ .

6. A square has been turned.

before   **after**
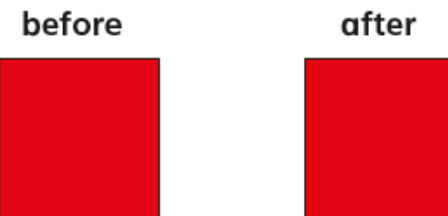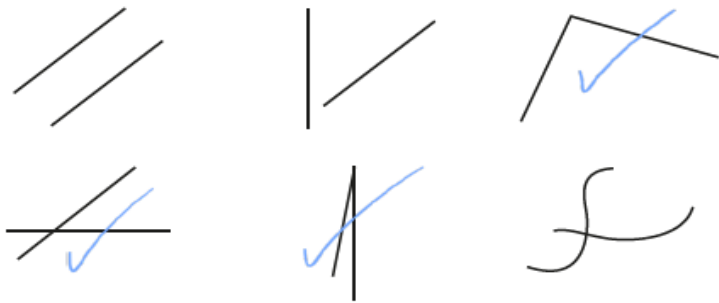
Complete the sentence. _various answers_

The square has turned a _____

turn _____ .

Is there more than one answer?

Turns and angles

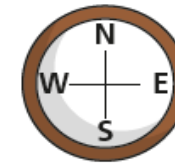**1** Which pictures show at least one angle? Tick your answers.

Compare answers with a partner.

2 The arrows are being turned clockwise.

Match the picture to the turn.

↑ →	half turn
↑ ↑	quarter turn
↑ ←	full turn
↑ ↓	three-quarter turn

3 Here is a compass.

a) Aisha is facing north.

She turns a quarter turn clockwise.

What direction is she facing now? _East_

b) Tommy is facing north.

He turns a quarter turn anticlockwise.

What direction is he facing now? _West_

c) Annie is facing east.

She turns a three-quarter turn clockwise.

What direction is she facing now? _North_

4 Mo and Eva are answering a question.

Mr Lee is facing west. He turns a half turn. What direction is he facing now?

Mo: I cannot answer this because we don't know what direction he turns in.

Eva: It does not matter about the direction!

Who do you agree with? _Eva_

Talk about it with a partner.

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5 Esther and Brett are showing what time it will be in a quarter of an hour.

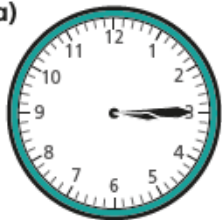Here is the time now.

Here are their answers.

Esther

Brett

Who is correct?   _Brett_

Talk about it with a partner.

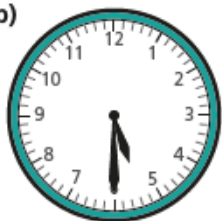**6** Draw hands on the clocks to show the new times.
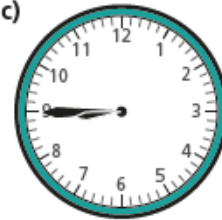
a)

half an hour later

b)

quarter of an hour later

c)

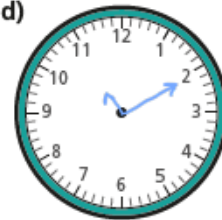three-quarters of an hour later

d)
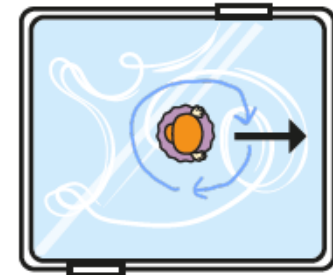
half an hour later

7 A figure skater is facing the direction shown.

She turns a quarter turn clockwise and then a three-quarter turn clockwise.

a) Draw on the picture to show that she ends up facing the same way as she started.

b) What other turns could she make and still end up facing the same way?

Various   answers

Compare answers with a partner.

Identify angles

White Rose Maths

1 Complete the sentences.

Use the word bank to help you.

| 90 | 180 | greater | less |

a) A right angle is **90** degrees.

b) An acute angle is ___less___ than **90** degrees.

c) An obtuse angle is ___greater___ than **90** degrees but less than **180** degrees.

2 Match the angles to the labels.

right angle

acute angle

obtuse angle

3 Label the angles: acute, obtuse or right angle.

a) ___acute___

d) ___obtuse___

b) ___right angle___

e) ___right angle___

c) ___acute___

f) ___obtuse___

4 Tick all the acute angles.

5 Tick all the obtuse angles.

6 Label the angles: acute, obtuse or right angle.

a)

right angle

c)

acute

b)

obtuse

d)
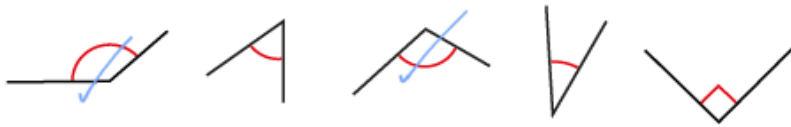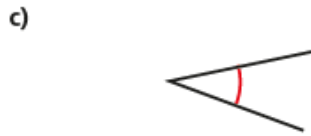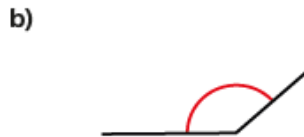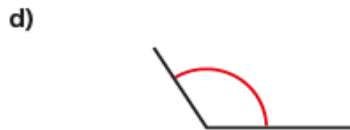
obtuse

7 Is the angle acute, obtuse or a right angle?

a) 35° ___acute___

d) 89° ___acute___

b) 99° ___obtuse___

e) 121° ___obtuse___

c) 90° ___right angle___

f) 179° ___obtuse___

How do you know?

8

Angle B is obtuse because it's bigger than the right angle.

A   B

Do you agree with Teddy? ___No___

Explain your answer.

9 Are the statements always true, sometimes true or never true?

Explain your answer.

a) An obtuse angle is a greater turn than an acute angle.

Always. Obtuse angles are greater than 90° therefore greater than acute angles which are less than 90°.

b) An acute angle is a greater turn than a right angle turn.

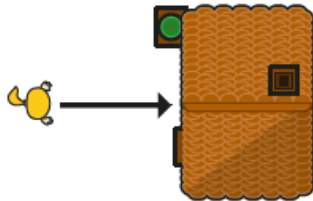_Never. Acute angles are less than 90° ie. less than a right angle._

c) If you turn through two acute angles you will have turned through an obtuse angle.

Sometimes. E.g. 12° + 12° = 24° (acute) but 50° + 50° = 100° (obtuse)
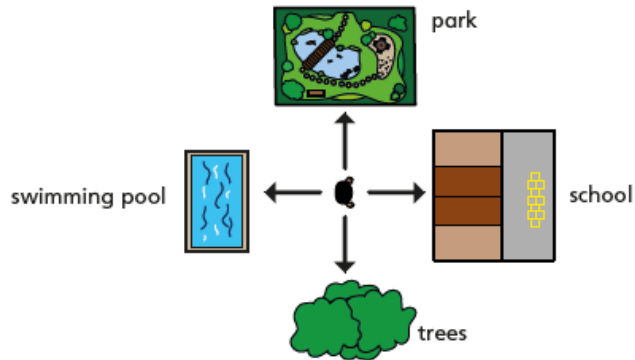
Measuring angles in degrees

1 Eva is facing her house.

She makes a full turn.

a) What is Eva facing now? _House_

b) How many degrees has Eva turned through?

360 degrees

2 Mo is facing his school.
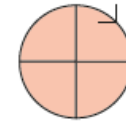
park

swimming pool   school

trees

Mo makes a half turn.

a) What is Mo facing now? _swimming pool_

b) How many degrees did Mo turn through? 180 degrees
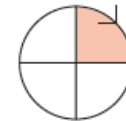
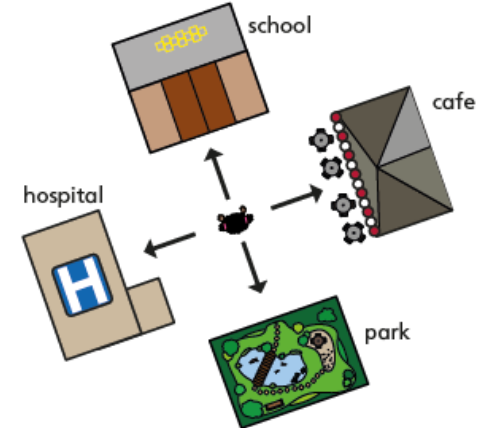**3** Complete the sentences.

a) There are 360 degrees in a full turn.

b) There are 180 degrees in half a full turn.

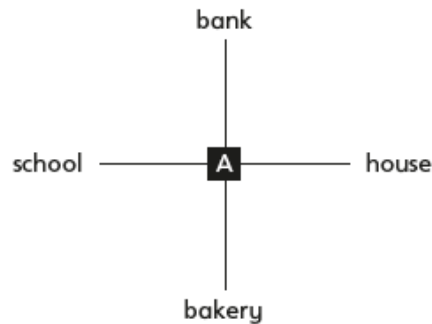c) There are 90 degrees in quarter of a full turn.

4 Whitney is facing the school.

school

cafe

hospital
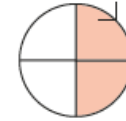
park

Whitney turns half a turn.

What is she now facing? _park_

Does it matter which way she turns?

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5 Amir, Annie, Jack and Filip are standing at point A.

```
              bank
               |
               |
school ——————[A]—————— house
               |
               |
            bakery
```

a) Amir is facing the bank. He turns 90 degrees clockwise.

Where is Amir facing now? _____house_____

b) Amir faces the bank again.

This time he turns 90° anticlockwise.

Where is now facing? _____school_____

c) Jack is facing the house.

He makes a 90° turn.

Where could he now be facing?

_____bank_____ or _____bakery_____

d) Filip is facing the school.

He turns to face the house.

How many degrees did he turn through? [180]°

e) Annie is facing the bakery.

She turns to face the school.

Describe two different turns she could have made.
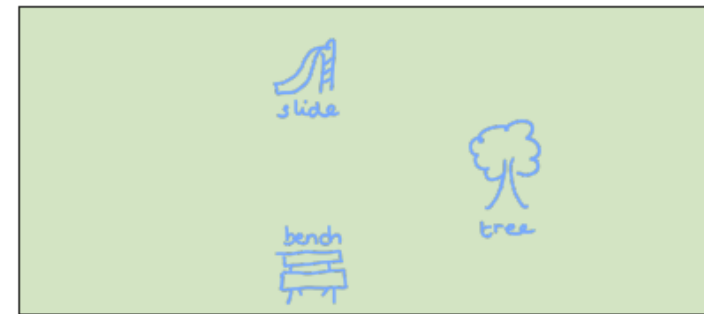
6 Ron is standing in the park.

He is facing forward and looking at a slide.

He makes a 180 degree turn and is now facing a bench.

He now makes a 90 degree turn and is facing a tree.

Draw a possible diagram of the park.

e.g.

Compare your diagram with a partner's diagram.

What is the same and what is different about your diagrams?

7 The diagram shows the direction of some places in relation to the centre of a town.

```
                    church
       supermaket     |      cinema
            \         |        /
coffee shop ←——[town centre]——→ school
            /         |        \
        house         |     restaurant
                    bank
```

I am in the town centre, facing the cinema. I make a 90° turn clockwise.

What is Tommy facing now? __restaurant.__

Create your own problem like this for a partner.