Name:

Exam Style Questions

Trigonometry

Corbettmaths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

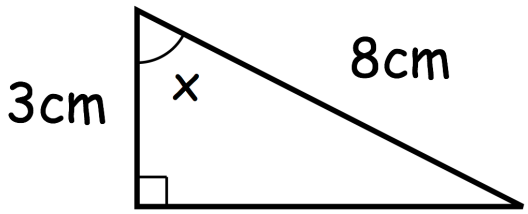
Video Tutorial

www.corbettmaths.com/contents

Videos 329, 330, 331

Answers and Video Solutions

1. Shown below is a right-angled triangle.

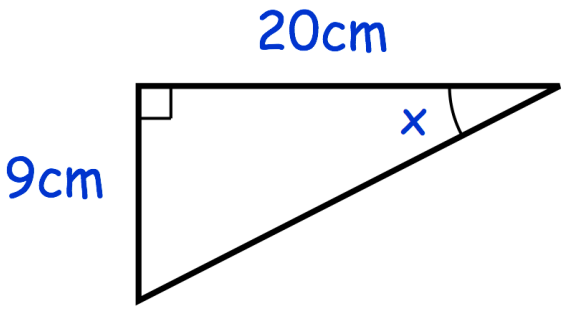


Use trigonometry to work out the size of angle x.

.....°

(3)

2.

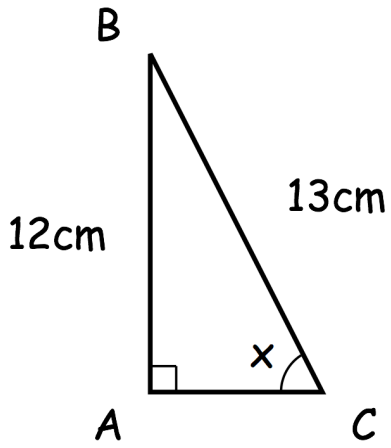


Work out the size of angle x

.....°

(3)

3. ABC is a right-angled triangle



Work out the size of the angle marked x.

.....°

(3)

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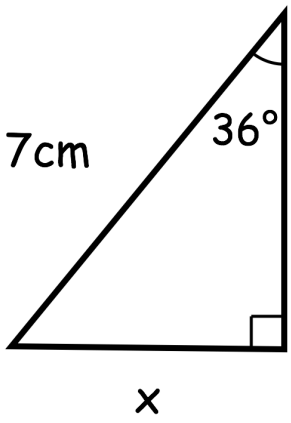
4. Below is a right-angled triangle.

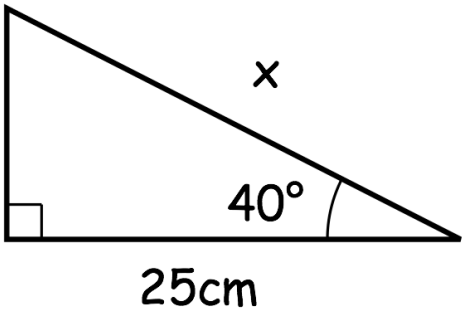


Use trigonometry to work out the length x.

.....cm

(3)

5.

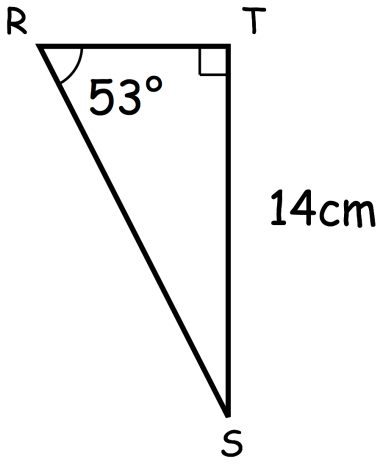


Work out the length x.

.....cm

(3)

6.

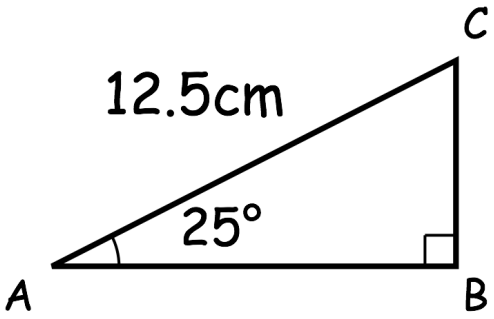


Work out the length of RT.

.....cm

(3)

7. Triangle ABC has a right angle.
Angle BAC is 25°
AC = 12.5cm



Calculate the length of AB

.....cm
(3)

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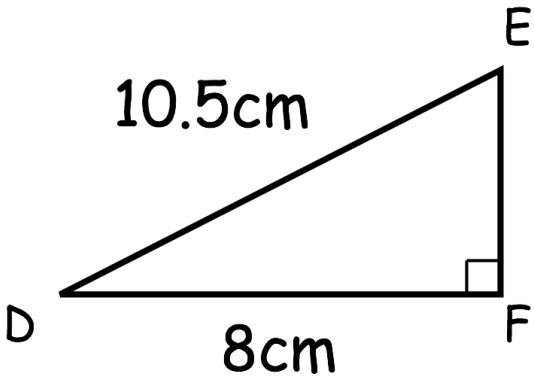
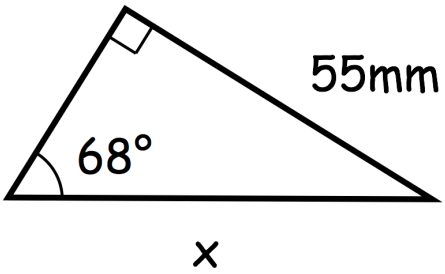
8. DEF is a right-angled triangle.



Calculate the size of angle DEF.

.....°
(3)

9.



Work out the length of side x.
Include suitable units.

.....

(3)

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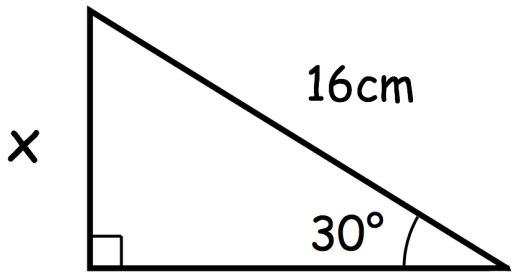
10. Shown is a right-angled triangle



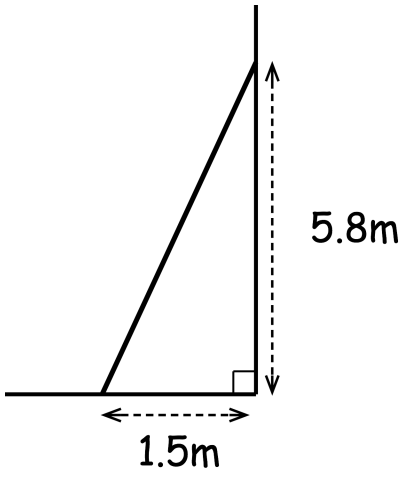
$sin30^\circ = 0.5$

Work out the value of x

.....

(3)

11. A ladder is placed against a vertical wall.
To be safe, it must be inclined at between 70° and 80° to the ground.



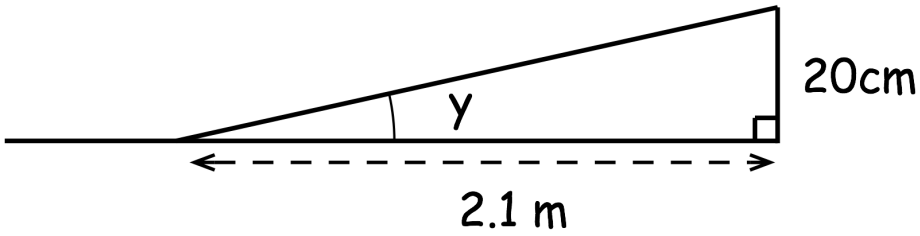
(a) Is the ladder safe?

.....
(3)

(b) Calculate the length of the ladder.

.....m
(3)

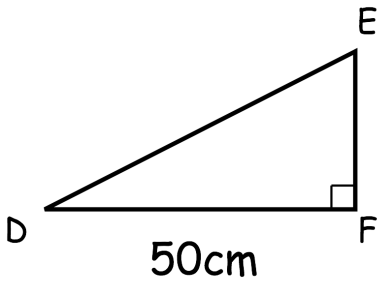
12. A ramp is built to help people enter a building.
The start of the ramp is 2.1 metres from the base of the building.
The ramp has a height of 20 centimetres.



Calculate the size of angle y.

.....°
(3)

13. Shown below is right-angled triangle DEF.

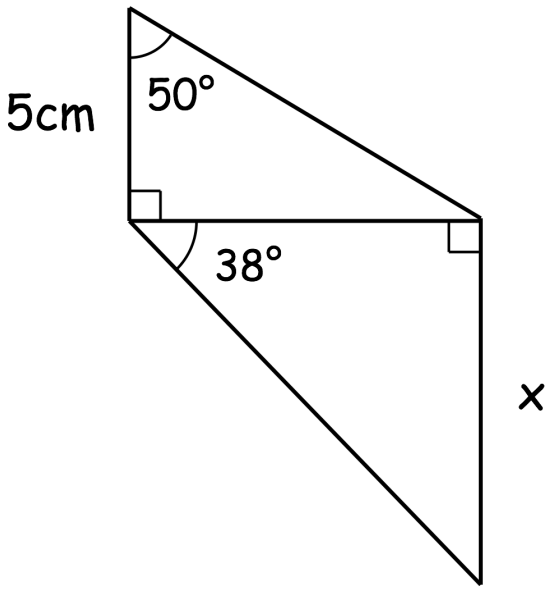


Angle E is 12° larger than angle D

Work out the length of DE.

.....cm
(4)

14. The diagram shows two right-angled triangles.



Calculate the value of x.

.....cm

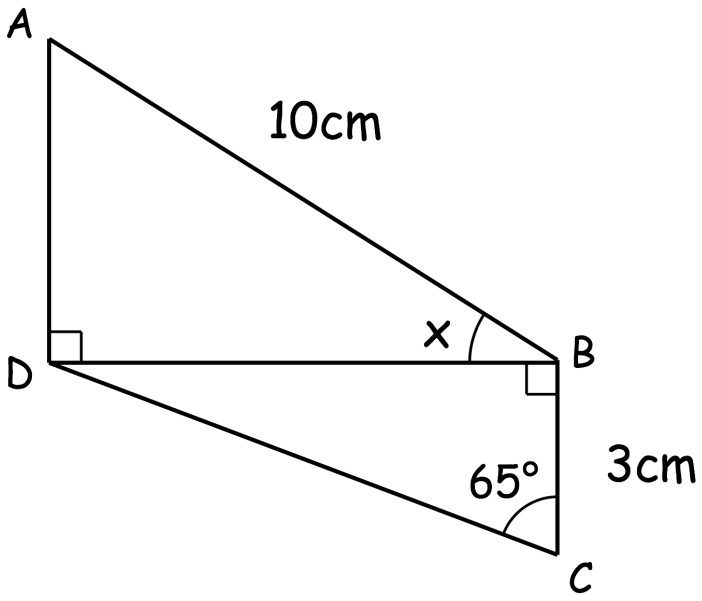
(5)

15. Two right-angled triangles are shown below.

AB is 10cm

BC is 3cm

Angle BCD is 65°



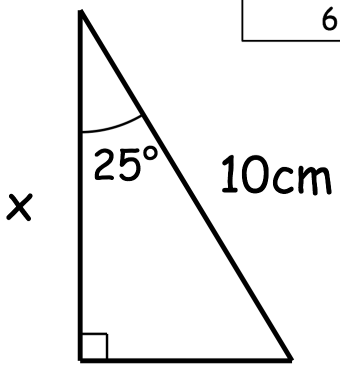
Calculate the size of angle ABD

.....°

(5)

16. The diagram shows a right-angled triangle.

Angle	Sine	Cosine	Tangent
25°	0.423	0.906	0.466
65°	0.906	0.423	2.145



Calculate the length of side x.

.....cm

(3)

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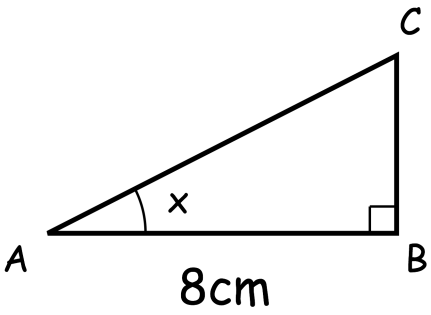
17. ABC is a right-angled triangle.



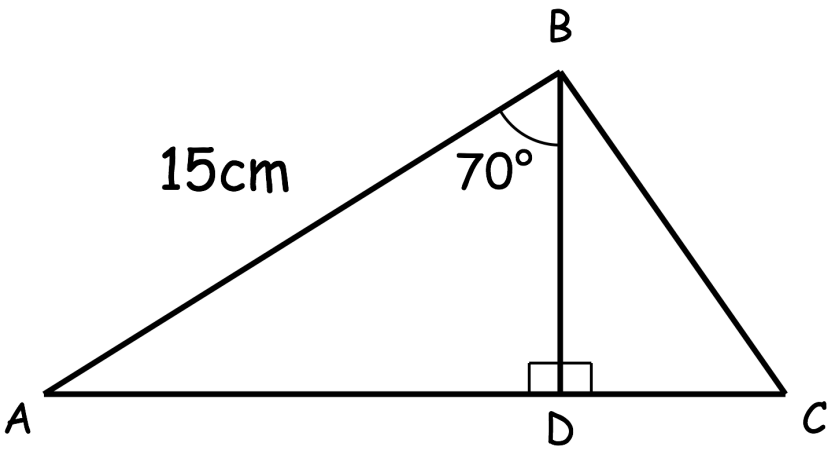
$tanx = 0.6$

Work out the length of BC

.....cm

(3)

18. Shown below are right-angled triangles, ABD and BCD.



AB = 15cm

Angle ABD = 70°

Angle ABD : Angle DBC = 5 : 2

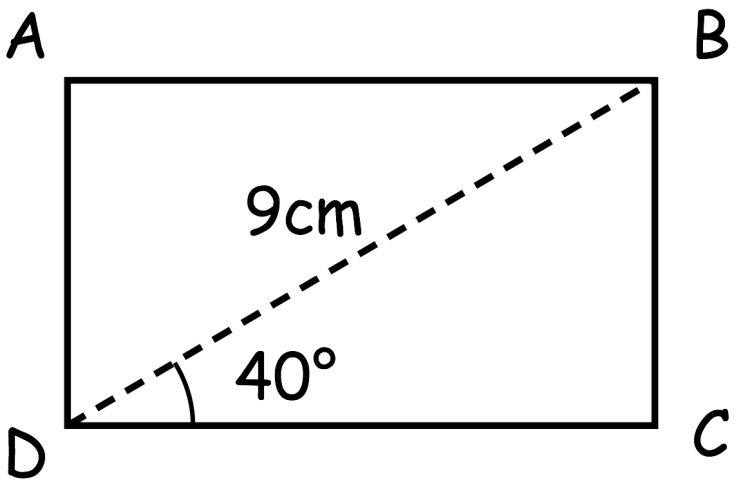
Work out the length of CD

.....cm

(5)

19. ABCD is a rectangle.

BD = 9cm
Angle BDC = 40°



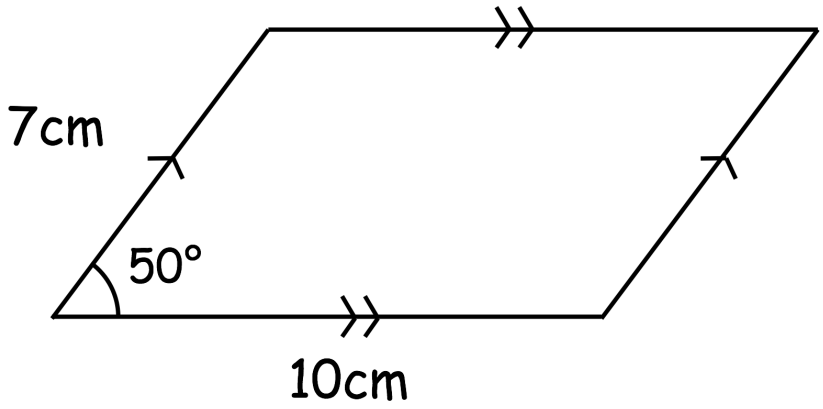
(a) Work out the length of BC

.....cm
(2)

(b) Work out the perimeter of rectangle ABCD

.....cm
(3)

20. Shown below is a parallelogram.

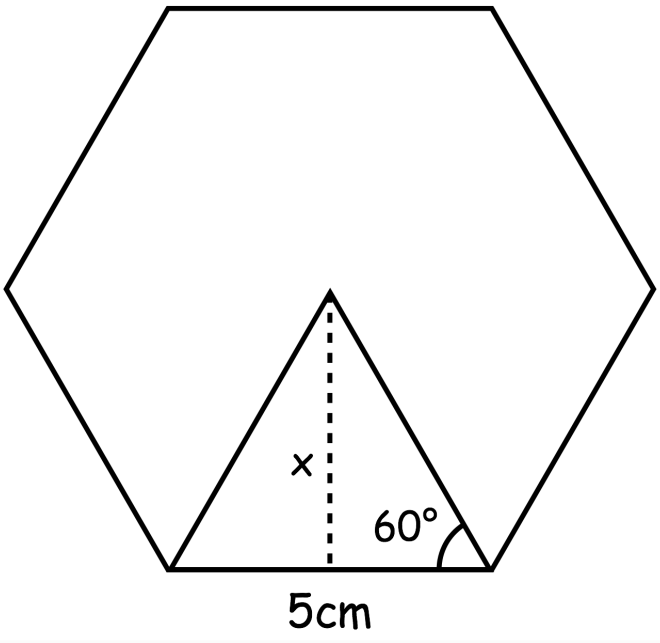


Calculate the area of the parallelogram.

.....cm²

(5)

21. A regular hexagon can be divided into 6 equilateral triangles.
The diagram below shows one of the equilateral triangles.



(a) Use trigonometry to find the height, x, of the equilateral triangle.

.....cm
(3)

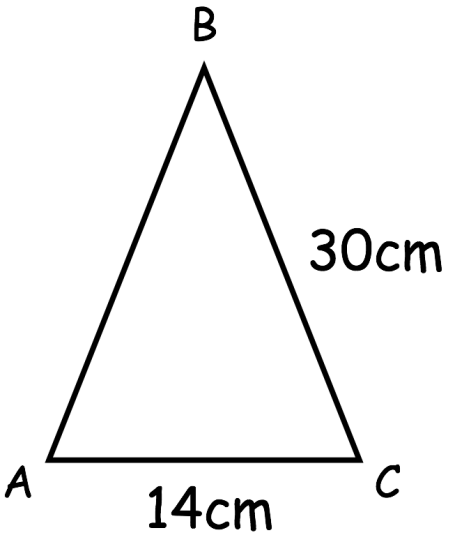
(b) Calculate the area of the equilateral triangle.

.....cm²
(1)

(c) Calculate the area of the hexagon.

.....cm²
(1)

22. Shown below is isosceles triangle, ABC, where AB = BC



(a) Work out the size of angle BAC

.....°

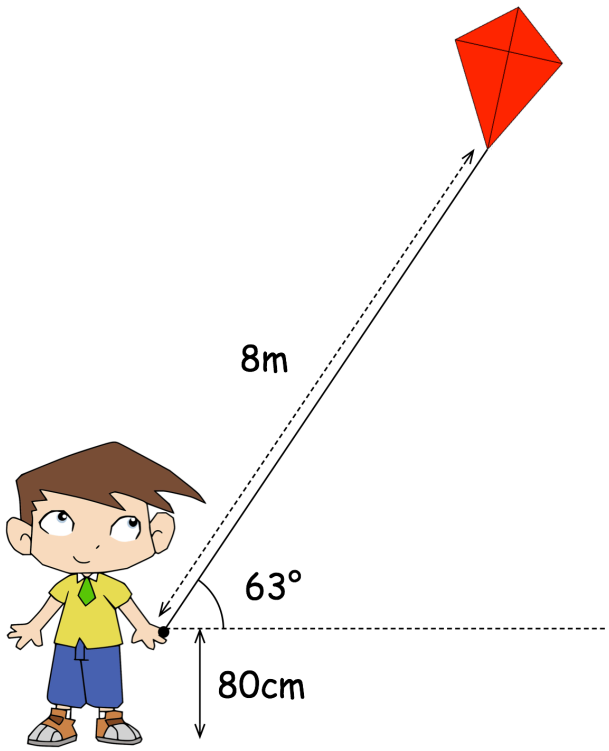
(3)

(b) Work out the size of angle ABC

.....°

(1)

23. Humphrey is flying a kite.



The handle is held 80cm above the ground.
The kite is on a string which is 8m long.
The string makes an angle of 63° with the horizontal.

Calculate the height of the bottom of the kite above the ground.

.....m

(4)

24. A helicopter leaves Bristol and flies due east for 10 miles.
Then the helicopter flies 8 miles north before landing.

(a) Work out the direct distance of the helicopter from Bristol.

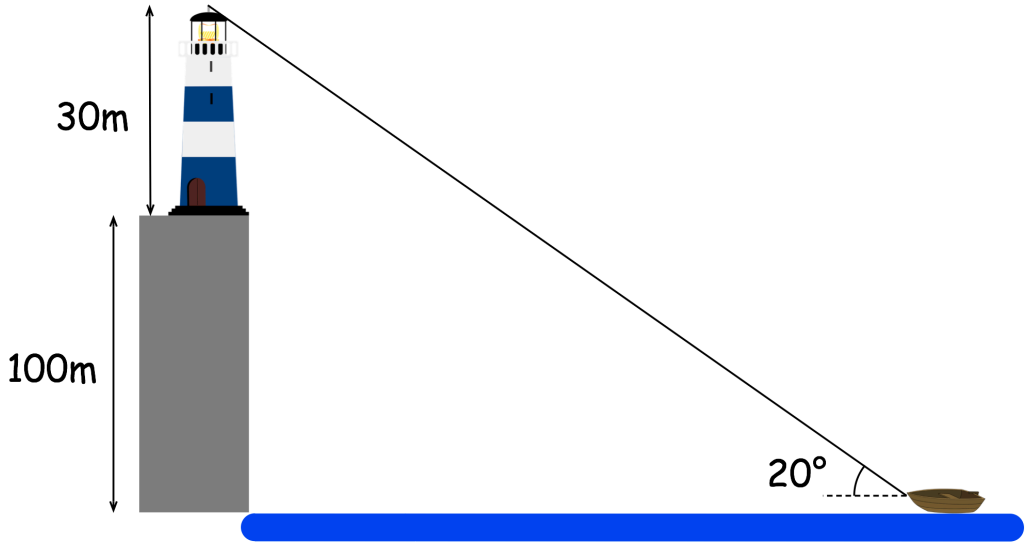
.....miles
(3)

(b) Calculate the bearing of the helicopter from Bristol.

.....°
(3)

25. A boat is approaching a cliff with a lighthouse on top.

The cliff is 100m high and the lighthouse is 30m tall.



The angle of elevation from the boat to the top of the lighthouse is 20°

(a) Calculate the distance of the boat from the base of the cliff.

.....m

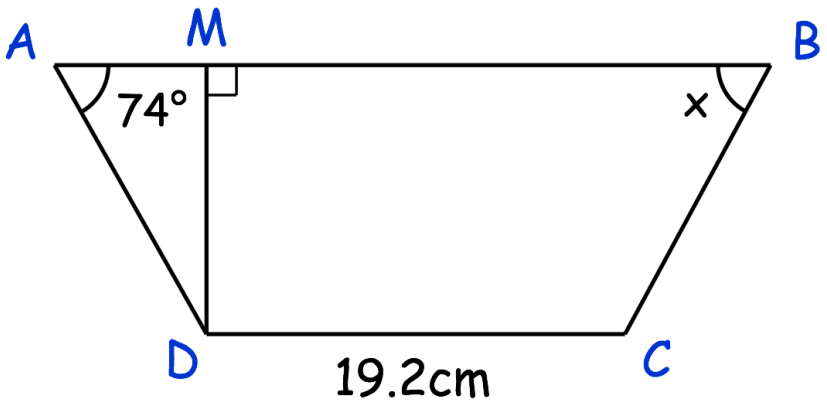
(3)

(b) Work out the angle of elevation from the boat to the top of the cliff.

.....°

(3)

26. ABCD is a trapezium



Angle BAD = 74°

CD = 19.2cm

AB = 26cm

AM = 2.5cm

Work out the size of angle ABC.

.....°

(5)