MME
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GCSE MATHEMATICS

AQA | Edexcel | OCR | WJEC

(Level 5 - 6)

Trigonometry (SOH-CAH-TOA)

Please write clearly in block capitals

Forename:	Neo
Surname:	Skinner

Materials

For this paper you must have:
- mathematical instruments

You ***can*** use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

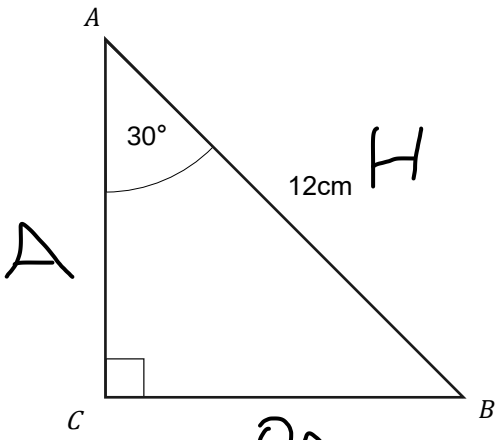
1 ABC is a right-angled triangle. *(Level 5)*

$\angle BAC$ is 30°

AB = 12 cm

SOH CAH TOA

Not drawn accurately



Using trigonometry, find the length of the side CB.

Show all your workings.

[3 marks]

Sin(30) * 12

Answer 6 cm

Turn over for next question

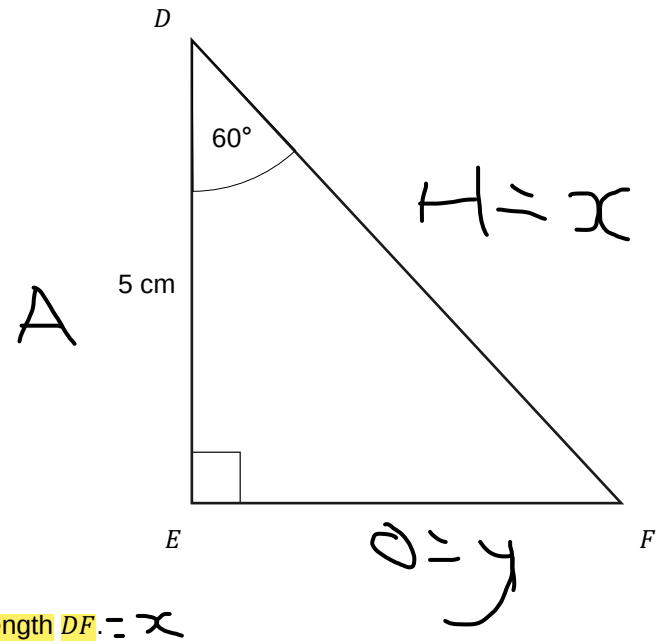
3

2 DEF is a right-angled triangle *(Level 5)*

$DE = 5$ cm

$\angle EDF = 60°$

SOH CAH TOA



Not drawn accurately

2(a) Find the length DF.

[3 marks]

5 / cos(60)

Answer 10 cm

2(b) Using your answer to part (a) find the length EF.

Show all your workings. should use sine

[3 marks]

tan(60) * 5

Answer 8.66025404 cm

Turn over for next question

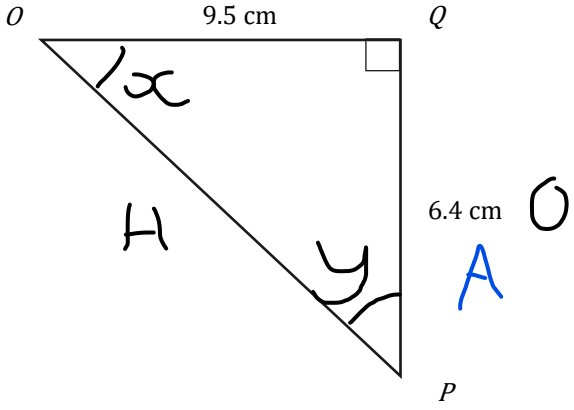
6

3 Below is a right angled triangle

OP = 6.4 cm

OQ = 9.5 cm.

SOH CAH TOA *(Level 5)*



Not drawn accurately

3(a) Find the size of the angle POQ. Give your answer to 2 decimal places

[3 marks]

6.4 / 9.5 = 0.673684211

tan¹(0.673684211) = 33.97

Answer 33.97°

3(b) What is the size of angle OPQ?

[1 mark]

9.5 / 6.4 = 1.484375

tan¹(1.484375) = 56.03

Answer 56.03°

could use angles in a triangle add to 180

4

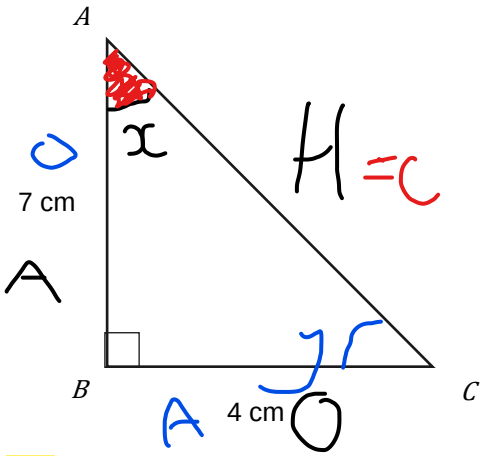
4 ABC is a right-angled triangle

Side $AB = 7\text{cm}$

Side $BC = 4\text{cm}$

SOH CAH TOA

(Level 5)



Not drawn accurately

4(a) Find the size of angle CAB

Give your answer to 2 decimal places

[3 marks]

4 / 7 = 0.571428571

tan¹(0.571428571) = 29.74

Answer 29.74°

4(b) Find the size of angle ACB.

[1 mark]

7 / 4 = 1.75

tan¹(1.75) = 60.26

Answer 60.26°

could use angles in a triangle add to 180

Question continues on next page

4

4(c) Find the side length AC using trigonometry.

Give your answer to 2 decimal places. You must show all workings.

[3 marks]

7 / cos(29.74) = 8.0618653

Answer 8.06 cm

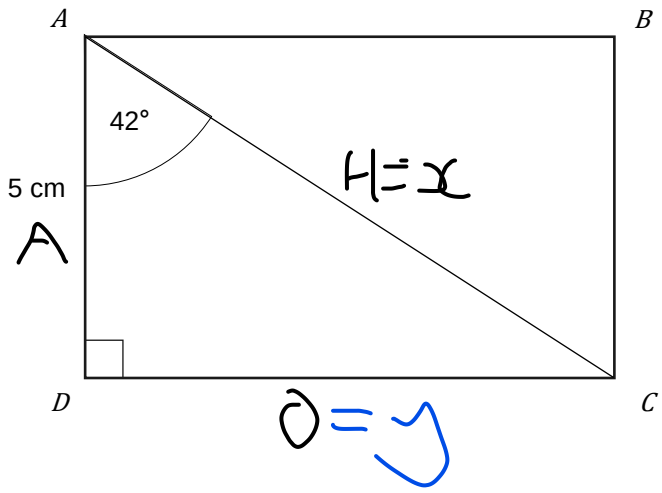
3

5 Below is a rectangle.

Angle DAC is 42 degrees.

Side AC is 5 cm.

(Level 5)



Not drawn accurately

5(a) Find the length of the diagonal line AC.

Give your answer to 2 decimal places

[3 marks]

5 / cos(42) = 6.72816365

Answer 6.73 cm

5(b) Using your answer to part (a) find the length DC.

Give your answer to 2 decimal places

[3 marks]

sin(42) * 6.73 = 4.50324898

Answer 4.50 cm

Turn over for next question

6

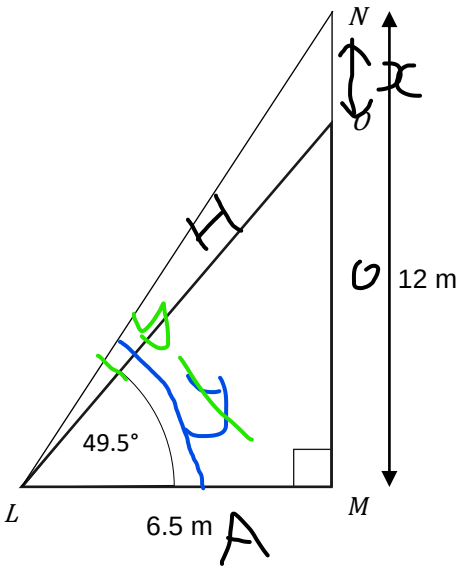
6 *OL* and *NL* *are ladders* leaning against a vertical wall *NM.* *(Level 6)*

NM is 12 m long

LM is 6.5 m.

Angle *OLM* is 49.5 degrees.

SOH CAH TOA



Not drawn accurately

6(a) Find the length of the line *ON.*

Give your answer to 2 decimal places

[3 marks]

tan(49.5) * 6.5 = 7.61052218

12 - 7.61052218 = 4.38947782

Answer 4.39 m

6(b) Find the size of angle *OLN* in the diagram.

[3 marks]

12 / 6.5 = 1.84615385

tan¹(1.84615385) = 61.56

Angle OLN is angle NLM - OLM

Answer 61.56°

End of Questions

6

END