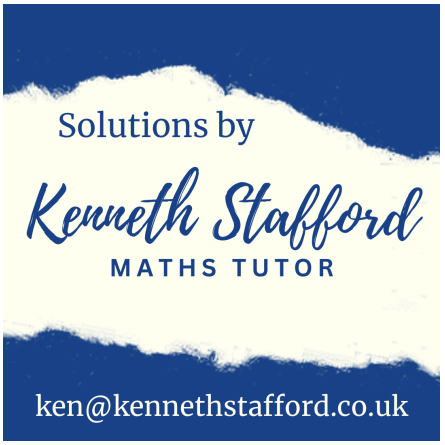
Name: SOLUTIONS

GCSE (1 - 9)

Similar Shapes



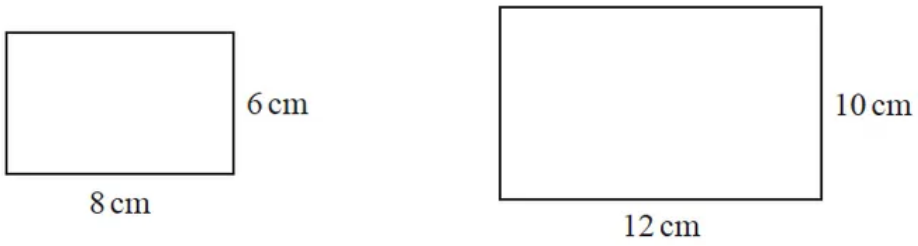


These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***Summer 2023*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk

Question	Where the question appeared
1	Edexcel, GCSE, Autumn 2018, Paper 1F, Q16
2	Edexcel, GCSE, Autumn 2019, Paper 1F, Q29
3	Edexcel, GCSE, Summer 2017, Paper 2F, Q21
4	Edexcel, GCSE, Summer 2017, Paper 3F, Q21
5	Edexcel, GCSE, Summer 2018, Paper 3F, Q27
6	Edexcel, GCSE, November 2022, Paper 2F, Q25

1

Here are two rectangles.



Jim says,

"The two rectangles are similar because $8 + 4 = 12$ and $6 + 4 = 10$"

Is Jim correct?
Explain your answer.

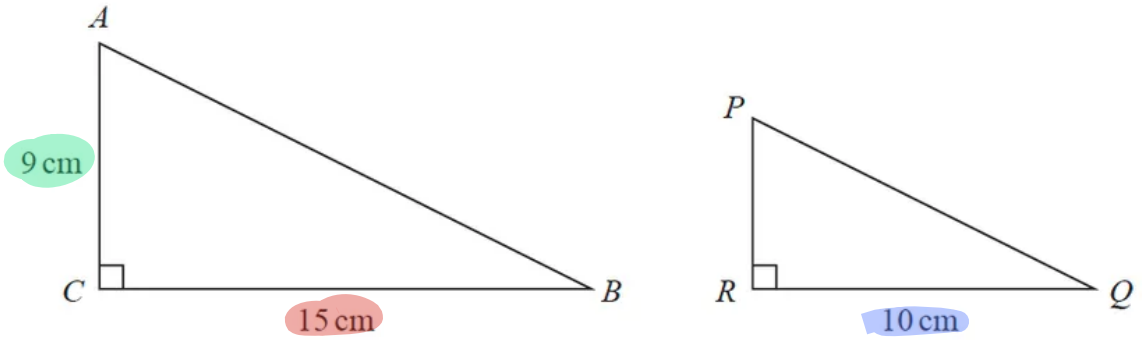
No. The sides need to remain in proportion. $\frac{8}{6} \neq \frac{12}{10}$

(Total for Question 16 is 1 mark)

[Edexcel, GCSE, Autumn 2018, Paper 1F, Q16]

2

ABC and *PQR* are similar right-angled triangles.



angle *ABC* = angle *PQR*

(a) Work out the length of *PR*.

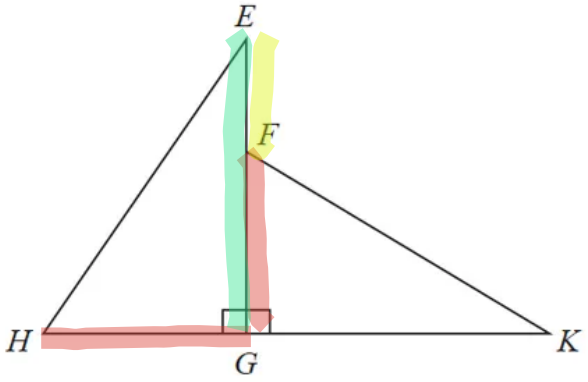
$\frac{15}{10} = 1.5$

$\frac{9}{1.5} = 6$

..... cm

(2)

Triangle *EGH* is congruent to triangle *KGF*.



HK = 10 cm.
HG = 4 cm.

(b) Work out the length of *EF*.

$10 - 4 = 6$

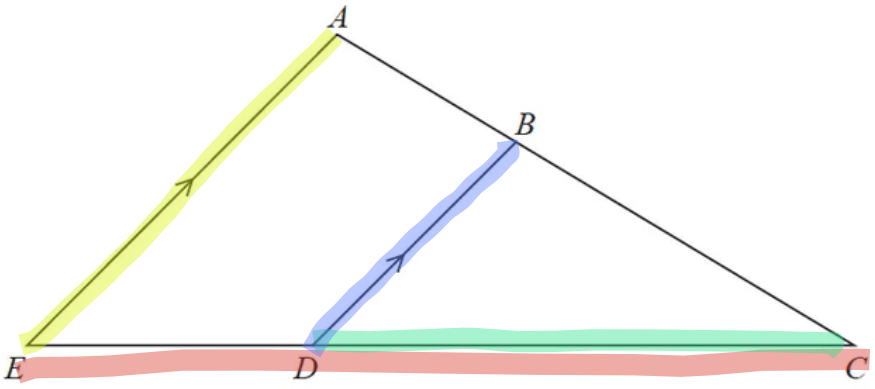
..... cm

(2)

(Total for Question 29 is 4 marks)

[Edexcel, GCSE, Autumn 2019, Paper 1F, Q29]

3



ABC and *EDC* are straight lines.
EA is parallel to *DB*.

EC = 8.1 cm.
DC = 5.4 cm.
DB = 2.6 cm.

$\frac{8.1}{5.4} = 1.5$

(a) Work out the length of *AE*.

$2.6 \times 1.5 = 3.9$

..... cm

(2)

AC = 6.15 cm.

(b) Work out the length of *AB*.

$6.15 \div 1.5 = 4.1$

$6.15 - 4.1 = 2.05$

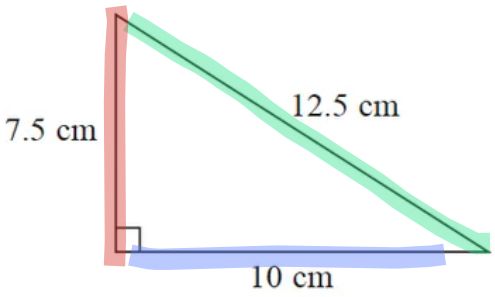
..... cm

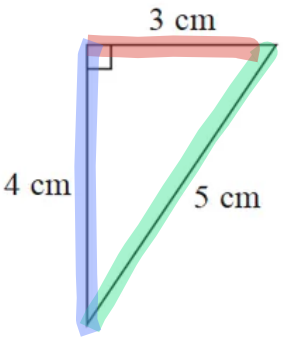
(2)

(Total for Question 21 is 4 marks)

[Edexcel, GCSE, Summer 2017, Paper 2F, Q21]

4





Show that these two triangles are mathematically similar.

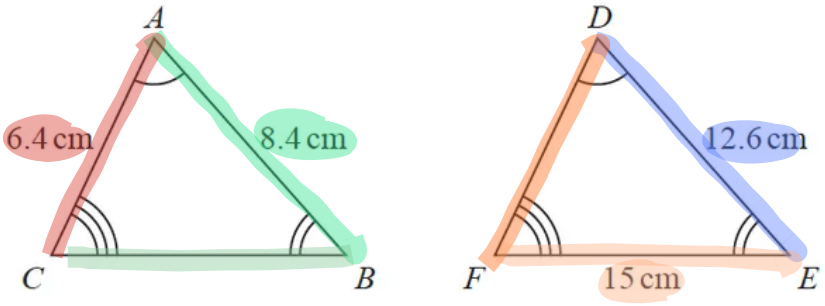
$\frac{12.5}{5} = \frac{10}{4} = \frac{7.5}{3} = 2.5$

(Total for Question 21 is 2 marks)

[Edexcel, GCSE, Summer 2017, Paper 3F, Q21]

5

Triangle ABC and triangle DEF are similar.



(a) Work out the length of DF.

$\frac{12.6}{8.4} = 1.5$

$6.4 \times 1.5 = 9.6$ ..... cm

(2)

(b) Work out the length of CB.

$\frac{15}{1.5} = 10$ ..... cm

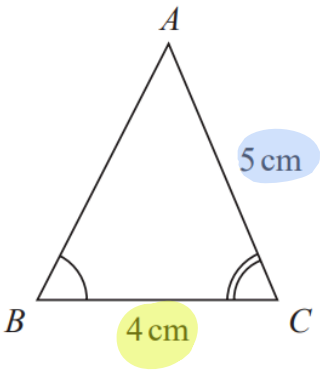
(2)

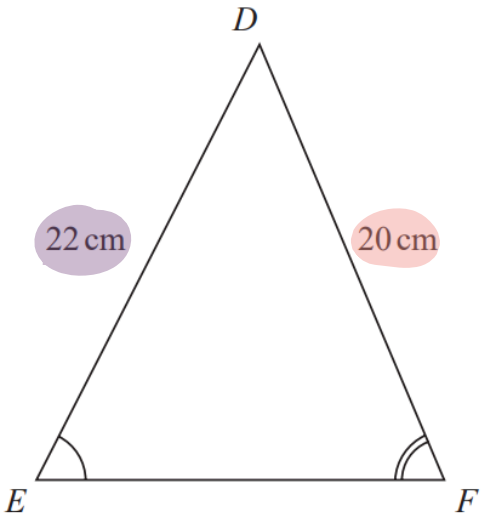
(Total for Question 27 is 4 marks)

[Edexcel, GCSE, Summer 2018, Paper 3F, Q27]

6

Triangle ABC and triangle DEF are similar.





(a) Work out the length of EF.

scale factor = $\frac{20}{5}$ = 4

EF = 4 x 4 = 16 cm

(2)

(b) Work out the length of AB.

22 ÷ 4 = 5.5 cm

(2)

(Total for Question 25 is 4 marks)

[Edexcel, GCSE, November 2022, Paper 2F, Q25]