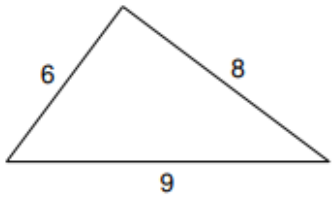
Past Paper Worksheet P2 Pythagoras Theorem IGCSE Mathematics 0580

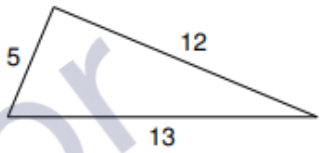


1. Decide if this triangle has a right angle.

(a)

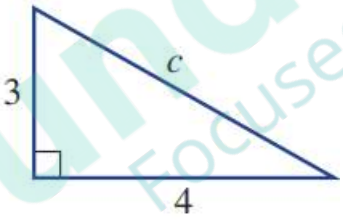


(b)

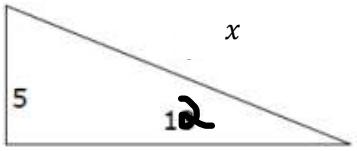


2. Find the missing lengths in the following triangles.

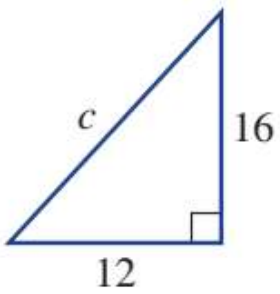
(a)



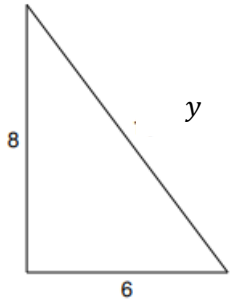
(c)



(b)



(d)



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Simplification of surds practice

(i) $\sqrt{20} = \sqrt{2 \times 2 \times 5} = 2\sqrt{5}$

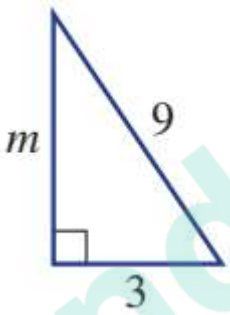
(ii) $\sqrt{8} = \sqrt{2 \times 2 \times 2} = 2\sqrt{2}$

(iii) $\sqrt{45} = \sqrt{3 \times 3 \times 5} = 3\sqrt{5}$

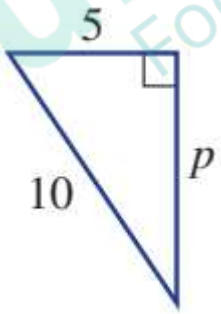
(iv) $\sqrt{240} = \sqrt{2 \times 2 \times 2 \times 2 \times 15} = 2 \times 2\sqrt{15} = 4\sqrt{15}$

3. Find the missing lengths in the following triangles. Give answer as a simplified surd in the form $a\sqrt{b}$.

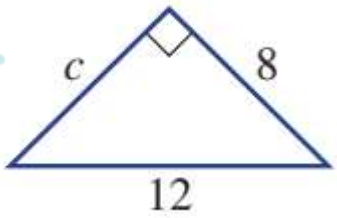
(a)



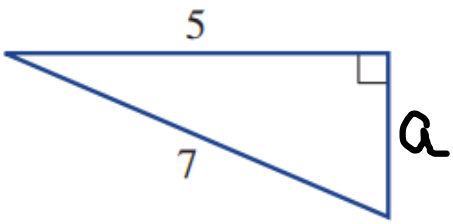
(b)



(c)



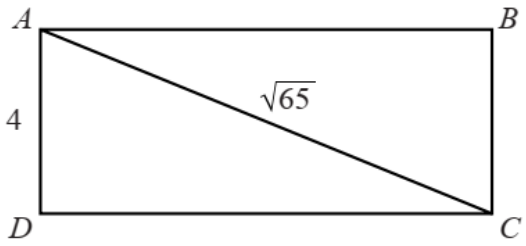
(d)



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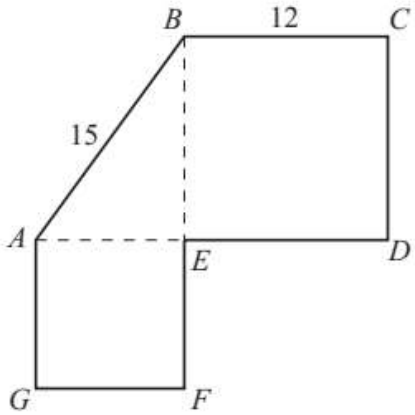
4. $ABCD$ is a rectangle with $AC = \sqrt{65}$ cm and $AD = 4$ cm.



Calculate the area of $ABCD$. [3]
4024/12/M/J/12 Q15)

5. The length of one side of a rectangle is 12cm.
The length of the diagonal of the rectangle is 13cm.
Calculate the area of the rectangle. [3]
0580/22/O/N/20 Q13)

6. Shape ABCDEFG is made from two squares and a right-angled triangle.
AB = 15cm and BC = 12cm.

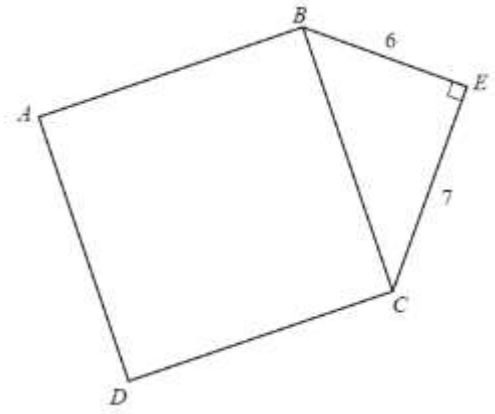


(a) Find the length AG. [2]
(b) Find the total area of the shape. [2]
4024/12/M/J/14 Q22)

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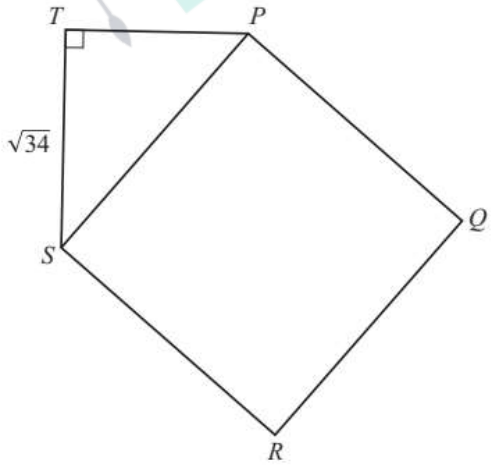


7. The diagram shows a square ABCD joined to a right-angled triangle BEC.



BE = 6cm and EC = 7cm.
Calculate the area of the pentagon, ABECD. [3]
4024/11/M/J/18 Q17)

8. The diagram shows a square $PQRS$ and a right-angled triangle PST.



The area of the square is $50\ \text{cm}^2$. $ST = \sqrt{34}\ \text{cm}$.
Calculate PT. [2]
4024/11/O/N/15 Q5)

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Answer

Q1) (a) No because $100 \neq 81$ (b) yes because 169 = 169
Q2) (a) 5 (b) 20 (c) 13 (d) 10
Q3) (a) $6\sqrt{2}$ (b) $5\sqrt{3}$ (c) $4\sqrt{5}$ (d)$2\sqrt{6}$
Q4) 28
Q5) 60
Q6) 279
Q7) 106
Q8) 4

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