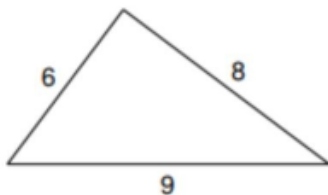


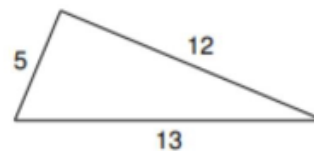


1. Decide if this triangle has a right angle.

(a)

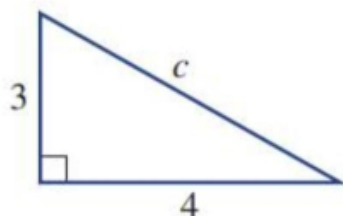


(b)

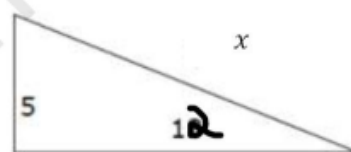


2. Find the missing lengths in the following triangles.

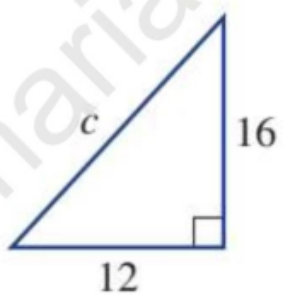
(a)



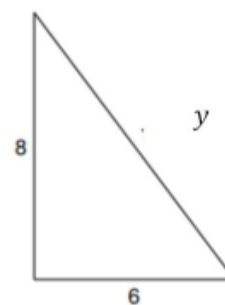
(c)



(b)



(d)

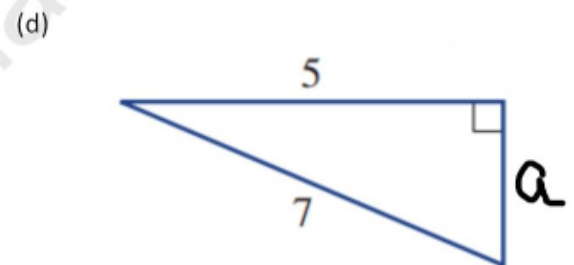
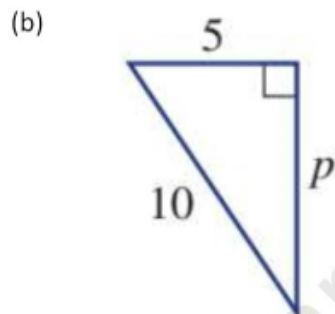
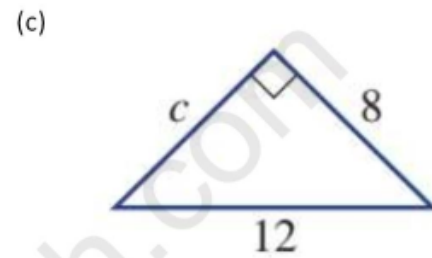
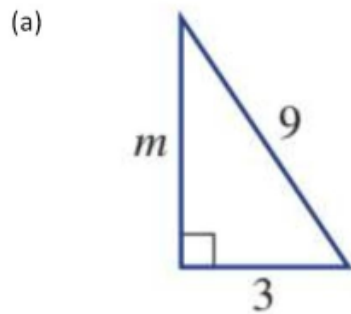




Simplification of surds practice

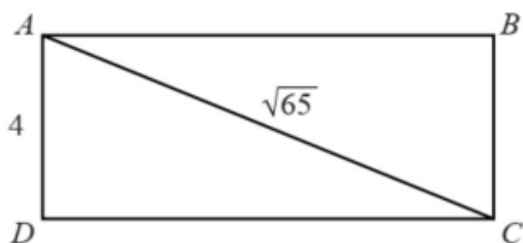
- (i) $\sqrt{20} = \sqrt{2 \times 2 \times 5} = 2\sqrt{5}$
- (ii) $\sqrt{8} = \sqrt{2 \times 2 \times 2} = 2\sqrt{2}$
- (iii) $\sqrt{45} = \sqrt{3 \times 3 \times 5} = 3\sqrt{5}$
- (iv) $\sqrt{240} = \sqrt{2 \times 2 \times 2 \times 2 \times 15} = 2 \times 2\sqrt{15} = 4\sqrt{15}$

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





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



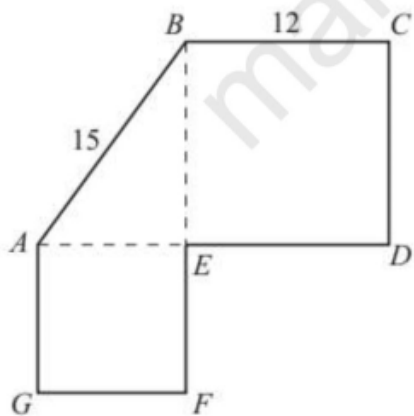
Calculate the area of $ABCD$. [3]

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.
 $AB = 15$ cm and $BC = 12$ cm.

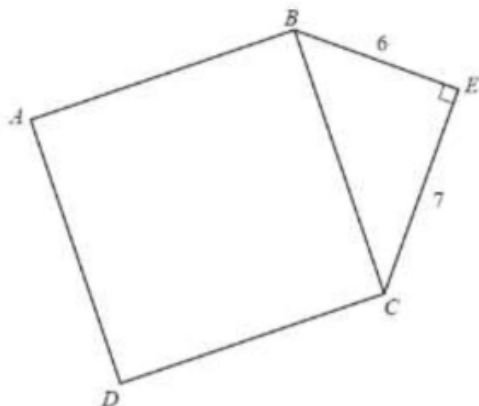


- (a) Find the length AG . [2]
(b) Find the total area of the shape. [2]

4024/12/M/J/14 Q22)



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

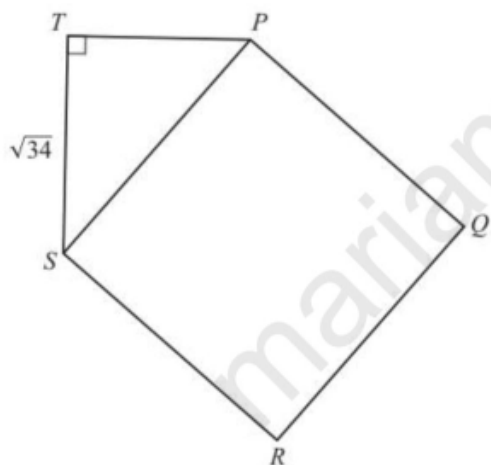


BE = 6cm and EC = 7cm.

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 cm^2 . $ST = \sqrt{34} \text{ cm}$.

Calculate PT. [2]

4024/11/O/N/15 Q5)

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