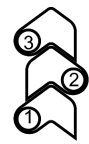
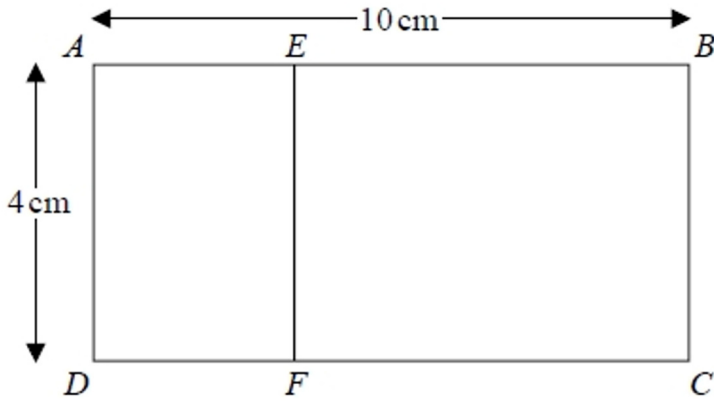


Q2. Rectangle $ABCD$ is mathematically similar to rectangle $DAEF$.



Date: _____



$AB = 10$ cm.
 $AD = 4$ cm.

Work out the area of rectangle $DAEF$.

..... cm²

(Total for question = 3 marks)

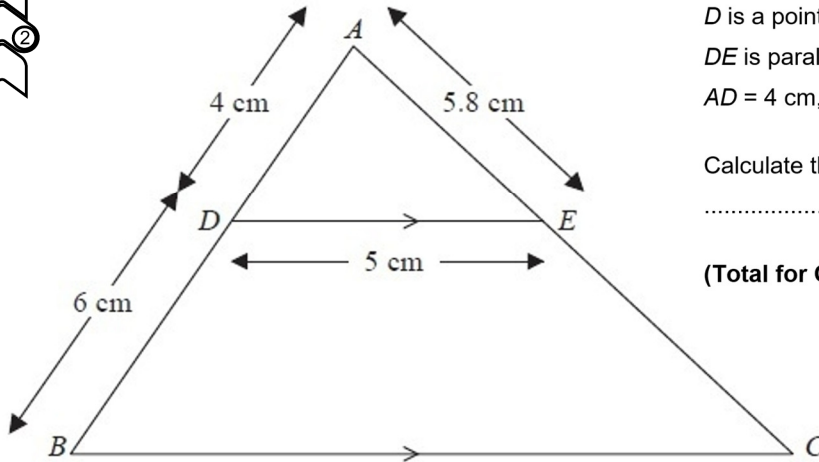
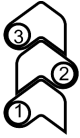
01

02

03

04

Q5. ABC is a triangle.



D is a point on AB and E is a point on AC .

DE is parallel to BC .

$AD = 4$ cm, $DB = 6$ cm, $DE = 5$ cm, $AE = 5.8$ cm.

Calculate the perimeter of the trapezium $DBCE$.

..... cm

(Total for Question is 4 marks)

05

06

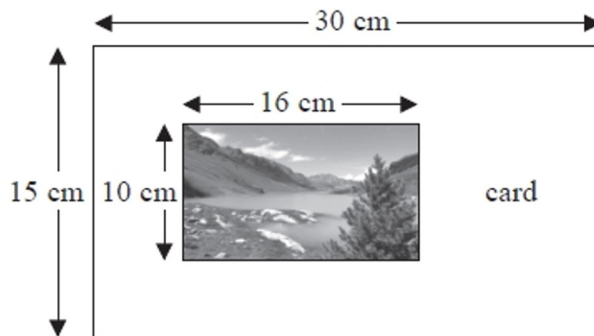
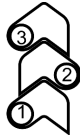
07

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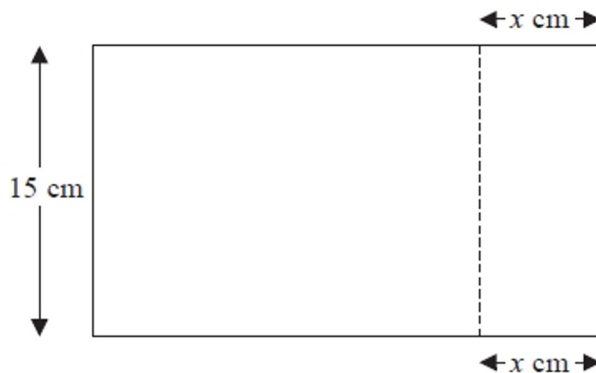
Q6. Steve has a photo and a rectangular piece of card.



The photo is 16 cm by 10 cm.

The card is 30 cm by 15 cm.

Steve cuts the card along the dotted line shown in the diagram below.



Steve throws away the piece of card that is 15 cm by x cm.

The piece of card he has left is mathematically similar to the photo.

Work out the value of x .

11

12

13

14

15

16

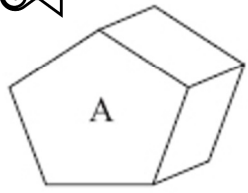
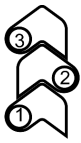
17

18

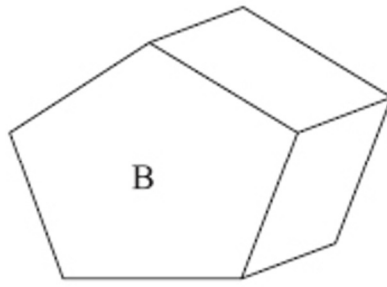
19

Mixed

Q8. The diagram shows two similar solids, A and B.



4 cm



8 cm

Solid A has a volume of 80 cm^3 .

(a) Work out the volume of solid B.

..... cm^3

(2)

Solid B has a total surface area of 160 cm^2 .

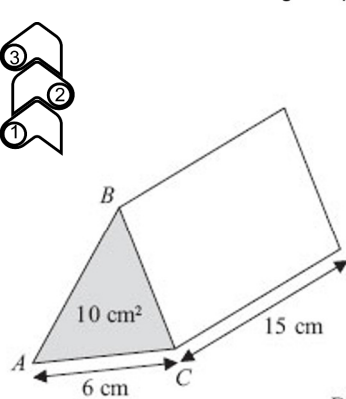
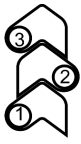
(b) Work out the total surface area of solid A.

..... cm^2

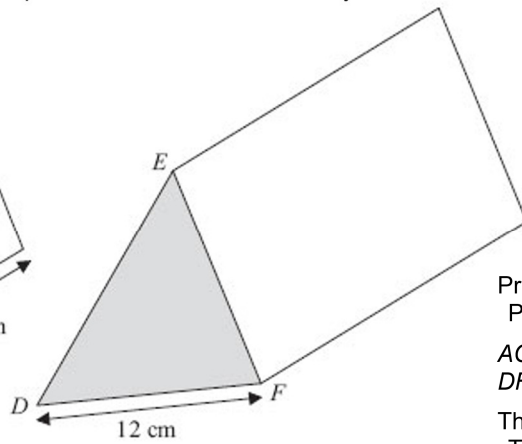
(2)

(Total for Question is 4 marks)

Q9. P and Q are two triangular prisms that are mathematically similar.



Prism P



Prism Q

Prism P has triangle ABC as its cross section.
Prism Q has triangle DEF as its cross section.

$AC = 6 \text{ cm}$

$DF = 12 \text{ cm}$

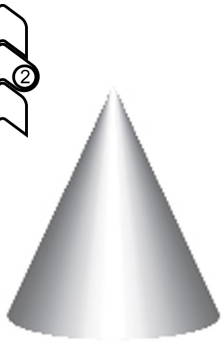
The area of the cross section of prism P is 10 cm^2 .

The length of prism P is 15 cm.

Work out the volume of prism Q.

(Total for Question is 4 marks)

Q10. Ali has two solid cones made from the same type of metal.



80 cm

A



160 cm

B

The two solid cones are mathematically similar.

The base of cone A is a circle with diameter 80 cm.

The base of cone B is a circle with diameter 160 cm.

Ali uses 80 m/ of paint to paint cone A.

Ali is going to paint cone B.

(a) Work out how much paint, in m/, he will need.

..... m/ (2)

The volume of cone A is $171\,700 \text{ cm}^3$.

(b) Work out the volume of cone B.

..... cm^3 (3)

(Total for Question is 5 marks)