Countdown to your final Maths exam ...
Part 12 (2018)

|	Marks	Actual	☹ 😐 🙂
Q1. Area of a triangle (Clips 59 & 60)	3		
Q2. Metric unit conversion	2		
Q3. Similar shapes (Clip 62)	3		
Q4. Area of compound shapes (Clips 59 & 60)	3		
Q5. Area of compound shapes (Clips 59 & 60)	3		
Q6. Congruence (Clip 61)	2		
Q7. Congruence (Clip 61)	2		
Q8. Surface area (Clips 59 & 60)	3		
Q9. Pythagoras (Clips 39 & 40)	5		
Q10. Similar shapes (Clip 62)	4		
Q11. Perimeter & area of triangles (Clips 59 & 60)	4		
Q12. Similar shapes (Clip 62)	5		
Q13. Surface area (Clips 59 & 60)	3		
Q14. Surface area (Clips 59 & 60)	3		
Q15. Volume (Clips 59 & 60)	4		
Q16. Area of compound shapes (Clips 59 & 60)	4		
Q17. Surface area (Clips 59 & 60)	7		
Q18. Volume (Clips 59 & 60)	5		

65

Questions

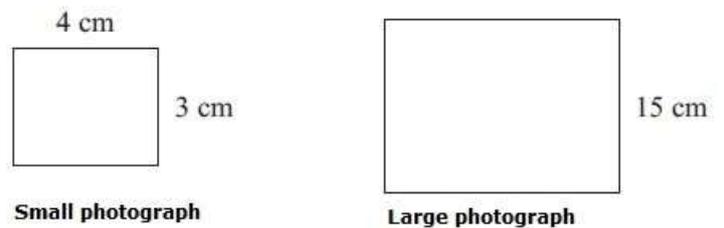**Q1.** Work out the area of this triangle.

5 cm

Diagram **NOT** accurately drawn

6 cm
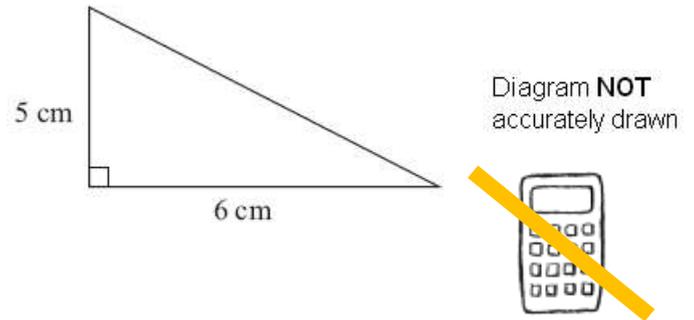
(3)

Q2. Change 2 m³ to cm³.

.... cm³ **(2)**

Q3. A small photograph has a length of 4 cm and a width of 3 cm. Shez enlarges the small photograph to make a large photograph.
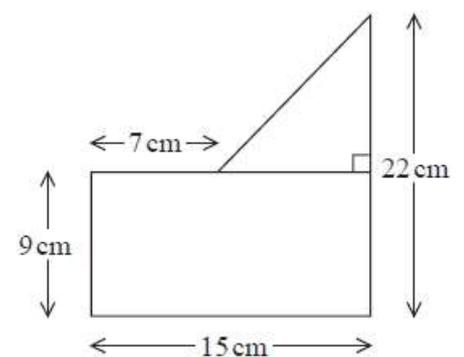
The large photograph has a width of 15 cm.

4 cm

3 cm

15 cm

Diagram **NOT** accurately drawn

Small photograph

Large photograph

The two photographs are similar rectangles. Work out the length of the large photograph.

(3)

Q4. Here is a shape made from a rectangle and a triangle.

Work out the total area of the shape.

←7 cm→

22 cm

9 cm

.... cm² **(3)**

15 cm

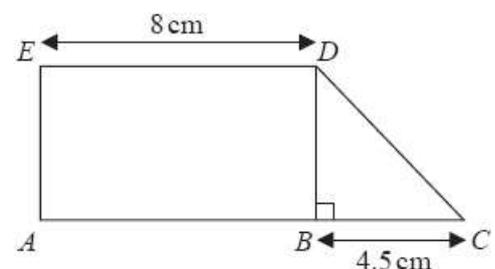**Q5.** *ABDE* is a rectangle. *ED* is 8cm.

BDC is a right-angled triangle. *BC* is 4.5cm.

ABC is a straight line.

The area of the rectangle *ABDE* is 40cm².
Work out the area of the triangle *BDC*.

8 cm

E   D

A   B   C
              4.5 cm

....cm² **(3)**

Q6. Here are eight shapes drawn on a grid of centimetre squares.
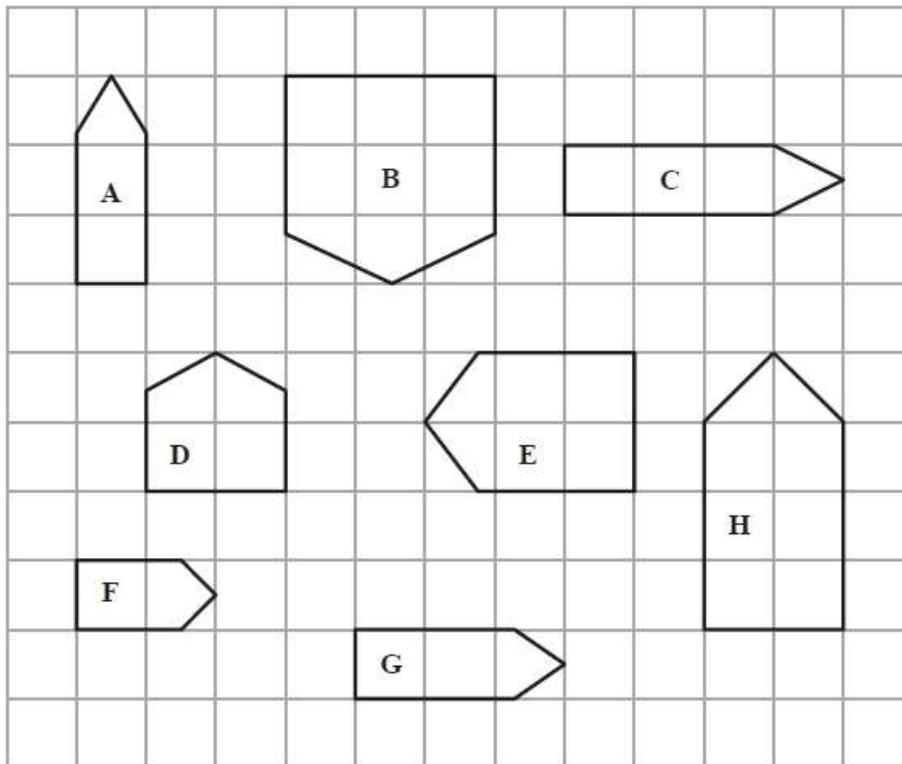
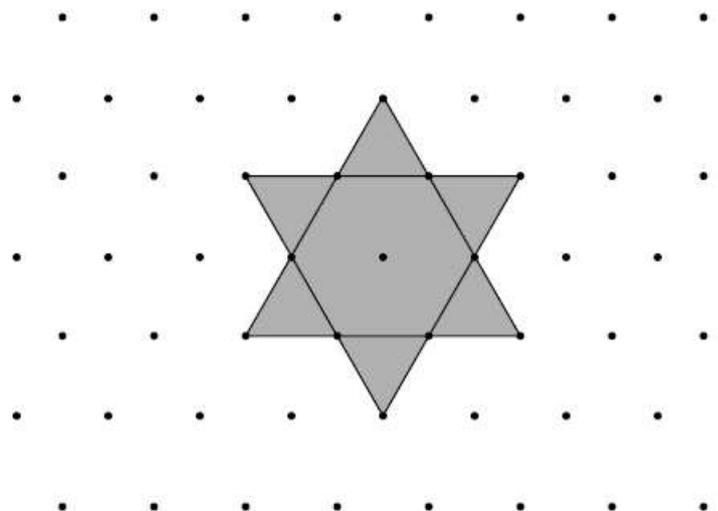a) Two of these shapes are congruent. Write down the letters of these two shapes.

.... and .... **(1)**

b) Shape **H** is an enlargement of one of the other shapes. Which shape?

.... **(1)**

Q7. Here is a star shape.

The star shape is made from a regular hexagon and six congruent equilateral triangles.

The area of the star shape is 96 cm².

Work out the area of the regular hexagon.

.... cm² **(2)**

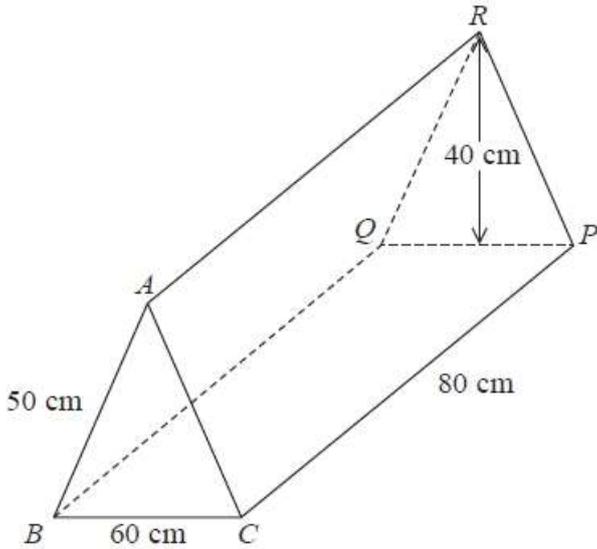**Q8.** Frances grows plants in a container. Each of the 5 faces of the container is made of glass.

Diagram **NOT** accurately drawn

The container is in the shape of a prism.
The cross section of the prism is an isosceles triangle with height 40 cm.

BC = 60 cm
$AB = AC$ = 50 cm
CP = 80 cm

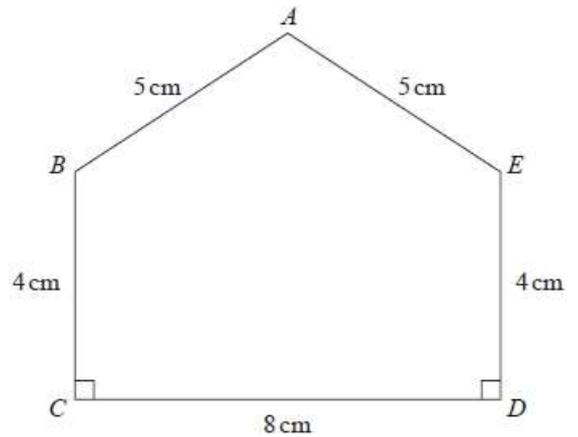Work out the total area of glass needed to make the container.

.... cm^2 **(3)**

Q9. *ABCDE* is a pentagon.

Work out the area of *ABCDE*.

.... cm^2 **(5)**

Q10. *ABC* and *EDC* are straight lines.

EA is parallel to *DB*.

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

(a)   Work out the length of *AE*.
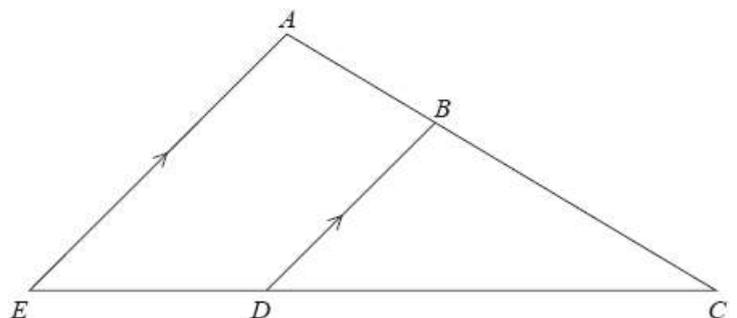
.... cm **(2)**

AC = 6.15 cm.

(b)   Work out the length of AB.

.... cm **(2)**
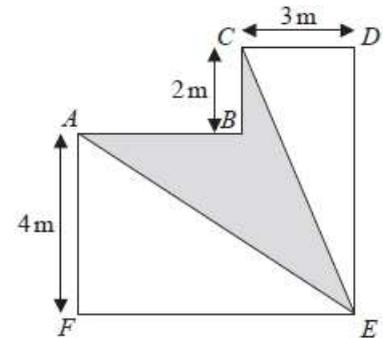
Q11. The diagram shows a shape *ABCDEF*.

All the corners of the shape are right angles.
The perimeter of the shape is 28 m.
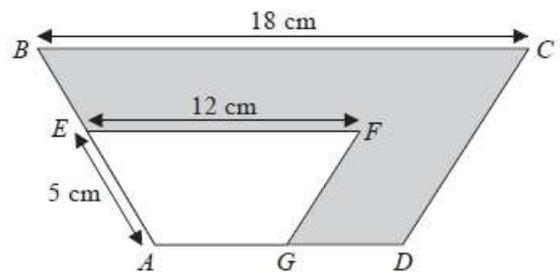
Work out the area of *ABCE* shown shaded on the diagram.

.... **(4)**

Q12. *ABCD* and *AEFG* are mathematically
similar trapeziums.

AE = 5 cm
EF = 12 cm
BC = 18 cm

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

.... cm **(2)**

Trapezium *AEFG* has an area of 36 cm².

(b) Work out the area of the shaded region.

.... cm² **(3)**

Q13. Here is a cuboid.

The cuboid is 6 cm by 1.5 cm by 1.5 cm.
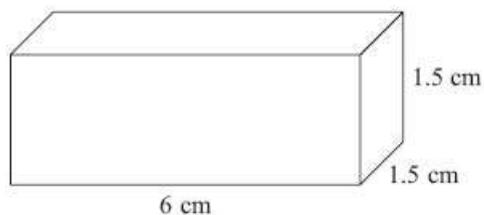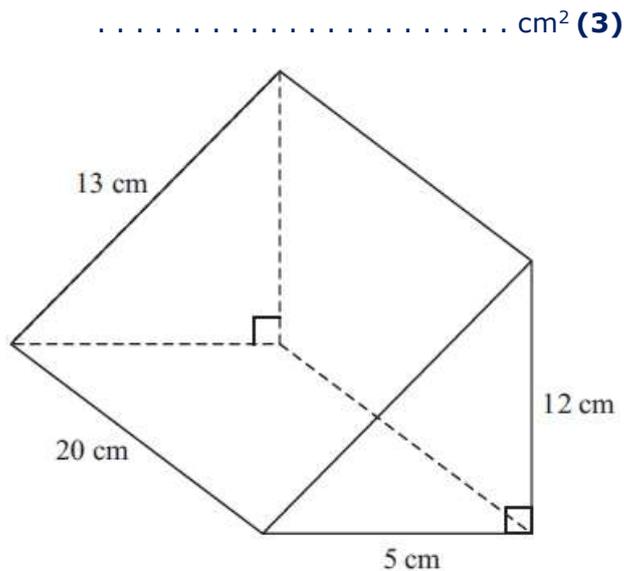
Work out the total surface area of the cuboid.

Diagram **NOT** accurately drawn

1.5 cm

1.5 cm

6 cm

.... cm² **(3)**

Q14. The diagram shows a triangular prism.

Work out the total surface area of the prism.

13 cm

12 cm

20 cm

5 cm

.... cm² **(3)**

Q15. Here is a solid prism.

Diagram **NOT** accurately drawn

Work out the volume of the prism.
You must show all your working.

3 cm

8 cm

8 cm

3 cm

12 cm

.... cm³ **(4)**
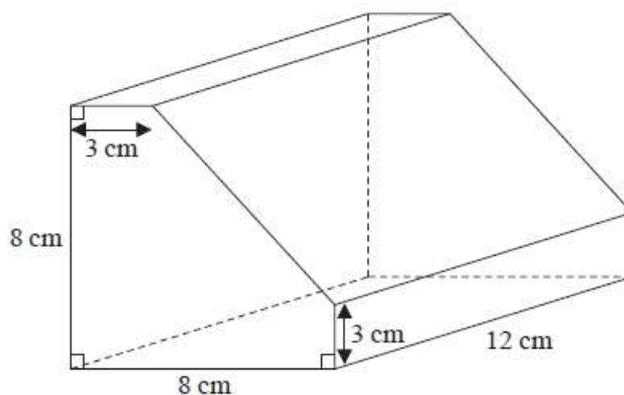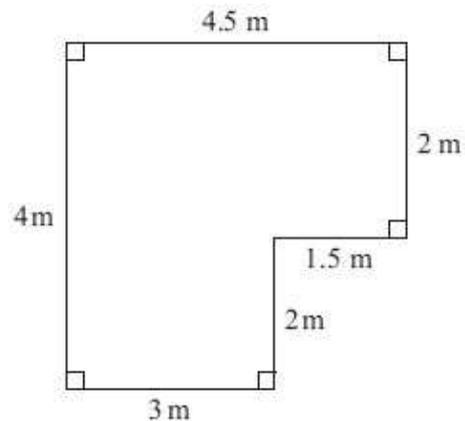
Q16. The diagram shows the floor plan of Jill's dining room.

Jill is going to cover the floor with wooden floorboards.

The floorboards are sold in packs.
One pack of floorboards will cover 2.25 m².

Work out how many packs Jill needs.
You must show all your working.

4.5 m

2 m
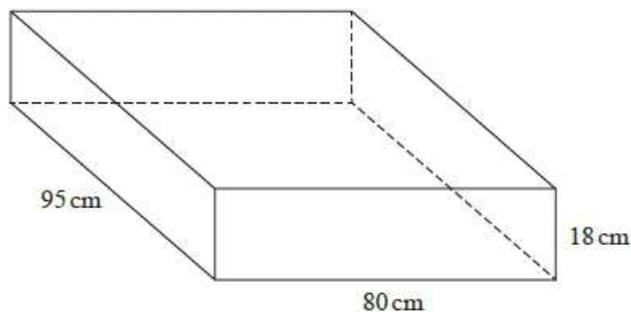
4m

1.5 m

2m

3 m

(4)

Q17. A sofa has 6 identical cushions.
Each cushion is a cuboid 18 cm by 80 cm by 95 cm.

The cushions are covered with a protective spray.
The protective spray is in cans.

The label on each can has this information.

95 cm

18 cm

80 cm

Spray in this can covers 4 m²

(a) Work out how many cans are needed to cover the 6 cushions with protective spray.

.... **(5)**

The information on each label is inaccurate.
The spray in each can covers 10% more than 4 m².

(b) How will this affect the number of cans needed for the 6 cushions?
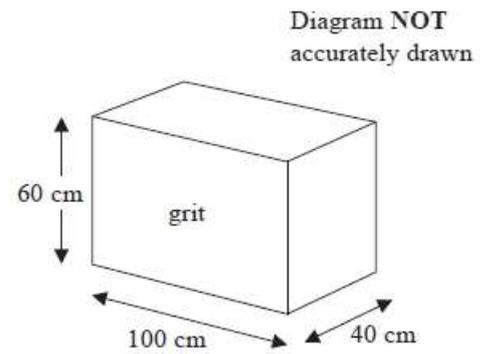
You must show how you get your answer.

(2)

Q18. The diagram shows a box for winter grit. The box is in the shape of a cuboid. The box is empty.

Diagram **NOT** accurately drawn

Jon wants to fill the box with grit.
A bag of grit costs £2.50
There are 8000 cm³ of grit in a bag.

Jon has £70 to spend on the grit.

Does Jon have enough money to buy all the grit he needs to fill the box completely?

60 cm

grit

100 cm   40 cm

(5)