

SUBJECT: MATHS

Contents:

Unit 14. Volume, surface area and symmetry

- ✓ 14.1. Calculating the volume of prisms (p.301-306)
- ✓ 14.2. Calculating the surface area of triangular prisms, pyramids and cylinders (p.307-311)
- ✓ 14.3. Symmetry in three-dimensional shapes

Unit 15. Interpreting and discussing results

- ✓ 15.1. Interpreting and drawing frequency polygons (p. 317-324)

Instructions:

- 1) Students **MUST** complete the study guide before revision classes.
- 2) Students are **ALLOWED** to use calculators for problem-solving tasks.

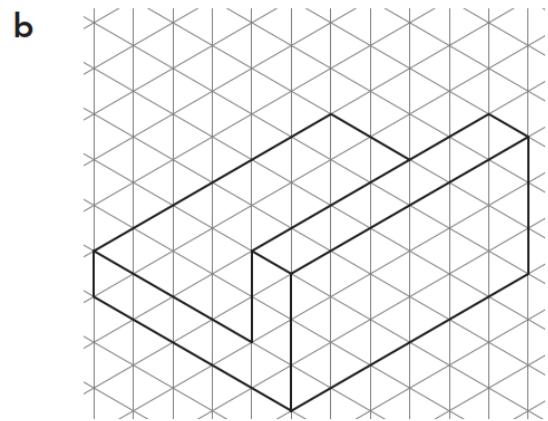
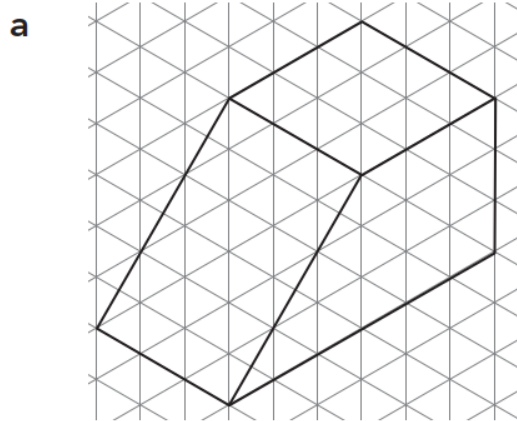
PART 1. MATHEMATICAL TERMS

NO.	TERMS	UNITS	DEFINITIONS	VIETNAMESE TRANSLATIONS
1	volume	14.1		
2	cross section	14.1		
3	prism	14.1		
4	surface area	14.2		
5	triangular prism	14.2		
6	pyramid	14.2		
7	cylinder	14.2		
8	plane of symmetry	14.3		
9	isometric paper	14.3		
10	congruent	14.3		

11	vertical	14.3		
12	horizontal	14.3		
13	diagonal	14.3		
14	frequency polygon	15.1		
15	midpoint	15.1		

PART 2. EXERCISES

Question 1. Draw the plane of symmetry on each shape.



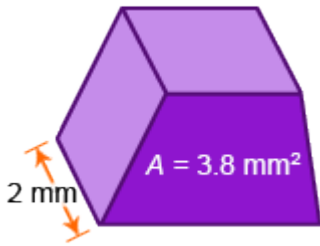
Question 2

The table shows the times taken by the students in class 9C to complete a cross-country run.

- How many students are there in class 9C?
- Copy and complete the table.
- Draw a frequency polygon for this data.
- What fraction of the students took less than 14 minutes to complete the run?

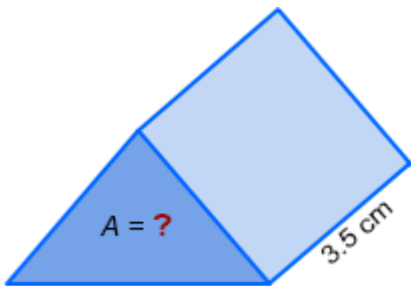
Time, t (minutes)	Frequency	Midpoint
$10 \leq t < 12$	4	
$12 \leq t < 14$	16	
$14 \leq t < 16$	7	
$16 \leq t < 18$	5	

Question 3



The volume of this prism is mm³

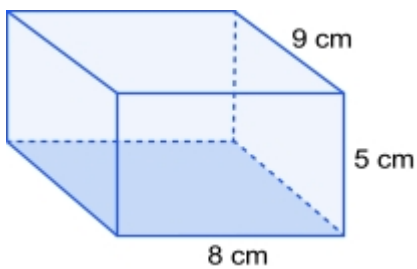
Question 4



Volume = 70 cm³

Area of base, A = cm²

Question 5



Volume of the rectangular prism = cm³

Question 6

Calculate the volume of the rectangular prism with length 10 m, width 3 m and height 6 m.

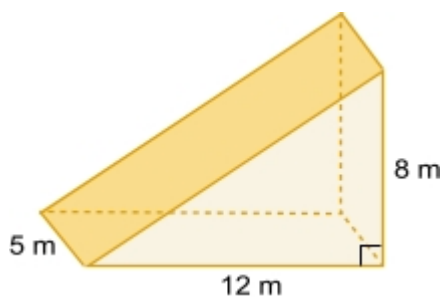
Volume = m³

Question 7

Calculate the volume of a rectangular prism that is 3 cm long, 2 cm wide and 17 mm high. **Be careful** with units.

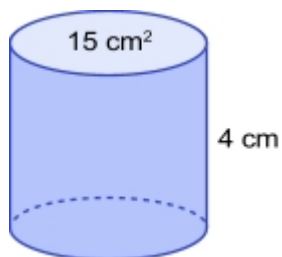
cm³

Question 8



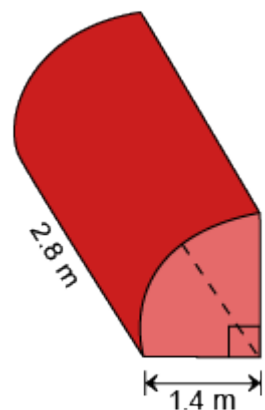
Volume = m³

Question 9



Volume = cm³

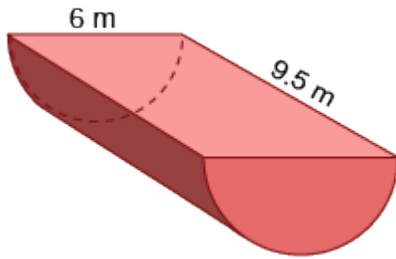
Question 10



The ends of this solid are quadrants. Find its volume correct to one decimal place.

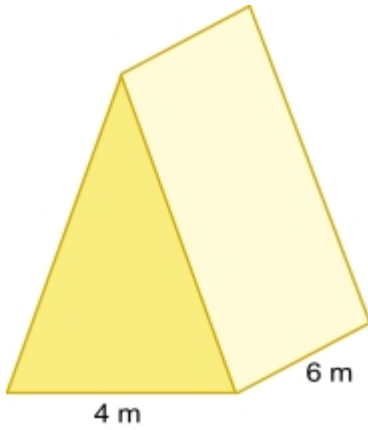
m³ (to one decimal place)

Question 11



Volume of trough = m³ (to one decimal place)

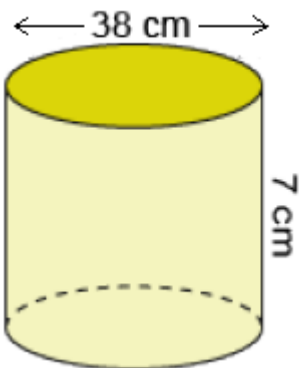
Question 12



The volume of the triangular prism is 66 m³. Calculate the height of the triangular face.

Height of triangle = m

Question 13



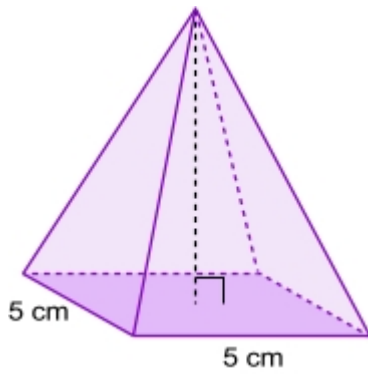
The cylinder is *open*.

Its diameter is 38 cm.

Curved surface area of open cylinder = cm²

(Give your answer to the nearest whole number.)

Question 14



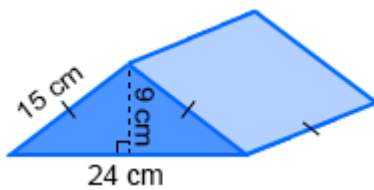
In a square pyramid the triangular faces are congruent.

One of the triangular faces has an area of 16 cm^2 .

Calculate the surface area of the pyramid.

Surface area = cm^2

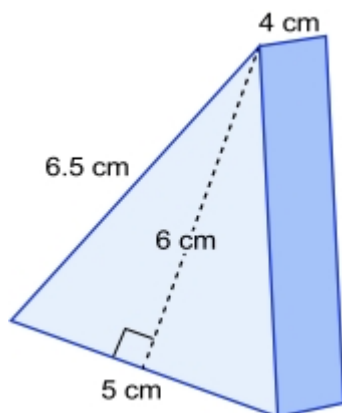
Question 15



What is the surface area of this triangular prism?

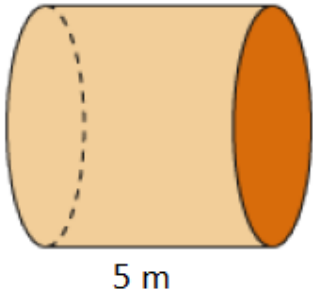
cm^2

Question 16



Surface area of triangular prism = cm^2

Question 17



The circumference of this cylinder is 43 cm.

Curved surface area of the cylinder = cm²

Question 18

Calculate the surface area of the solid prism.
(Answer correct to the nearest whole number.)

Surface area = cm²

