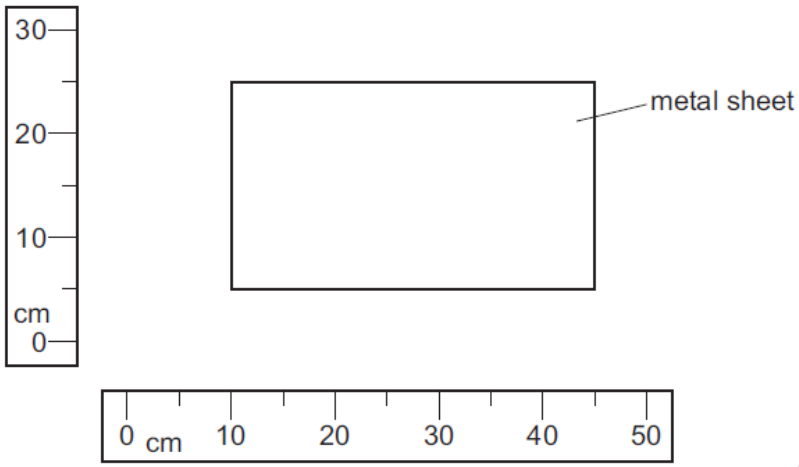
Physical Quantities – 2020 IGCSE 0625

1. March/2020/Paper_12/No.1

The diagram shows a rectangular metal sheet close to two rulers.

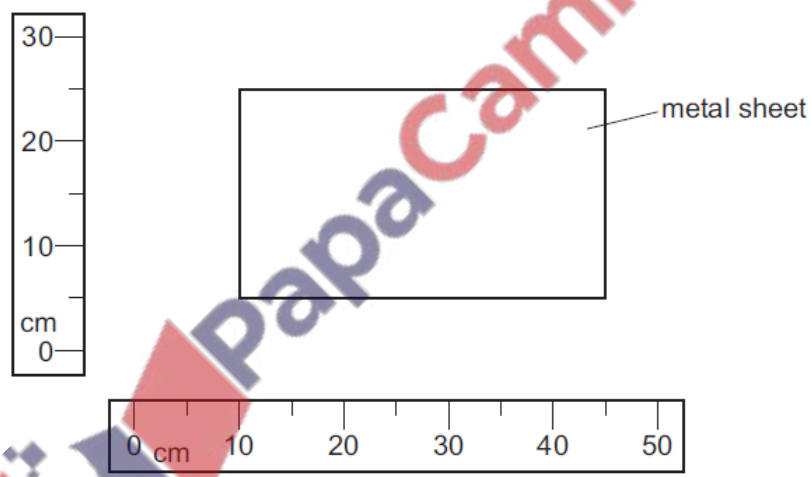


What is the area of the metal sheet?

A 700 cm^2 **B** 875 cm^2 **C** 900 cm^2 **D** 1125 cm^2

2. March/2020/Paper_22/No.1

The diagram shows a rectangular metal sheet close to two rulers.



What is the area of the metal sheet?

A 700 cm^2 **B** 875 cm^2 **C** 900 cm^2 **D** 1125 cm^2

3. March/2020/Paper_32/No.1

(a) A student places 8 similar coins in a pile, as shown in Fig. 1.1.

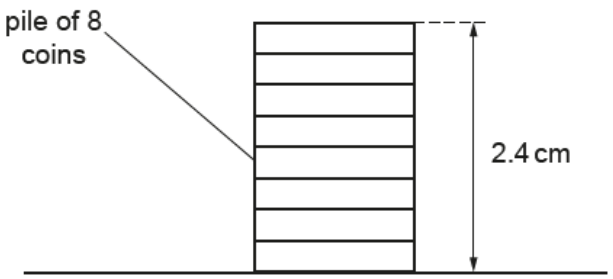


Fig. 1.1 (not to scale)

The height of the pile of coins is 2.4 cm.

Calculate the average thickness of one coin.

average thickness = ... cm [2]

(b) Fig. 1.2 shows the pile of coins, a measuring cylinder and a beaker containing some water.

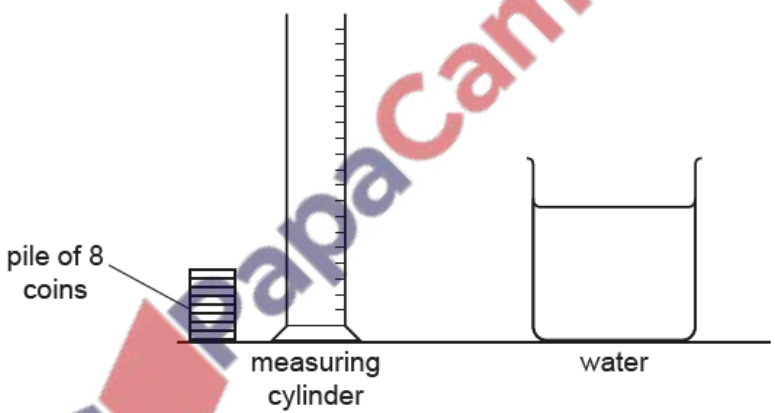


Fig. 1.2 (not to scale)

Describe how the student can measure the volume of **one** of the coins using the set-up shown in Fig. 1.2.

.....

.....

.....

..... [4]

[Total: 6]

4. June/2020/Paper_11/No.1

A pendulum makes 50 complete swings in 2 min 40 s.

What is the time period for 1 complete swing?

A 1.6 s **B** 3.2 s **C** 4.8 s **D** 6.4 s

5. June/2020/Paper_12/No.1

Five athletes P, Q, R, S and T compete in a race. The table shows the finishing times for the athletes.

athlete	P	Q	R	S	T
finishing time / s	22.50	24.40	25.20	26.50	23.20

Which statement is correct?

A Athlete P won the race and was 0.70 s ahead of the athlete in second place.

B Athlete P won the race and was 1.90 s ahead of the athlete in second place.

C Athlete S won the race and was 1.30 s ahead of the athlete in second place.

D Athlete S won the race and was 2.10 s ahead of the athlete in second place.

6. June/2020/Paper_13/No.1

Diagram 1 shows a solid, rectangular-sided block.

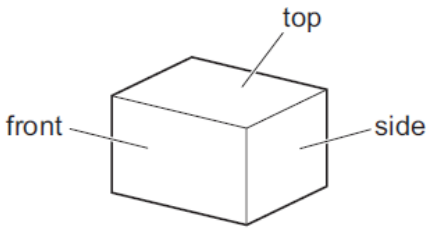


diagram 1

Diagram 2 shows the same block from the front and from the side.

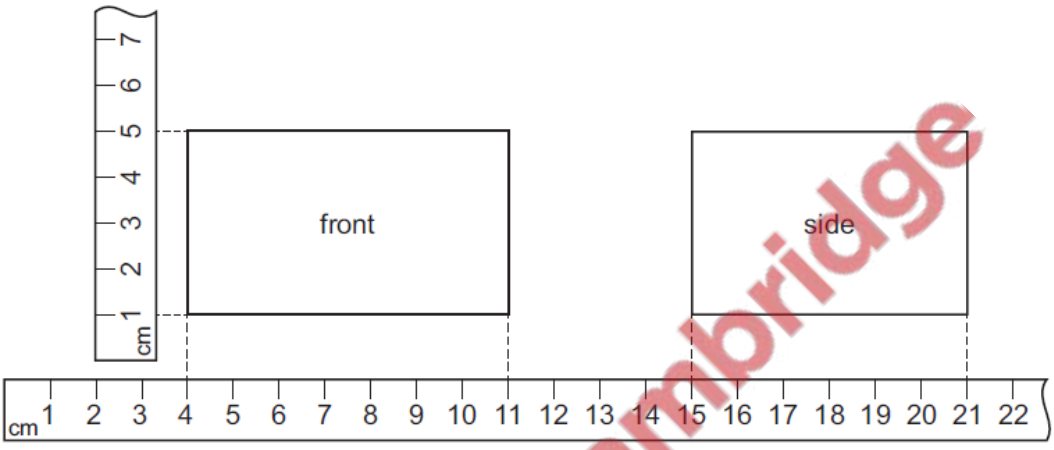


diagram 2

Metre rules have been shown close to the edges of the block.

What is the volume of the block?

A $120\,cm^3$ **B** $168\,cm^3$ **C** $264\,cm^3$ **D** $1155\,cm^3$

7. June/2020/Paper_21/No.1

A pendulum makes 50 complete swings in 2 min 40 s.

What is the time period for 1 complete swing?

A 1.6 s **B** 3.2 s **C** 4.8 s **D** 6.4 s

8. June/2020/Paper_21/No.8

Which quantity is a vector?

A acceleration

B distance

C speed

D mass

9. June/2020/Paper_22/No.1

Five athletes P, Q, R, S and T compete in a race. The table shows the finishing times for the athletes.

athlete	P	Q	R	S	T
finishing time / s	22.50	24.40	25.20	26.50	23.20

Which statement is correct?

A Athlete P won the race and was 0.70 s ahead of the athlete in second place.

B Athlete P won the race and was 1.90 s ahead of the athlete in second place.

C Athlete S won the race and was 1.30 s ahead of the athlete in second place.

D Athlete S won the race and was 2.10 s ahead of the athlete in second place.

10. June/2020/Paper_23/No.1

Diagram 1 shows a solid, rectangular-sided block.

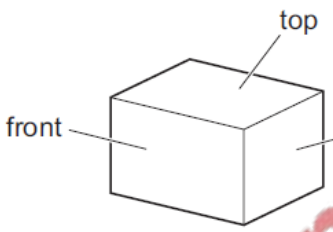


diagram 1

Diagram 2 shows the same block from the front and from the side.

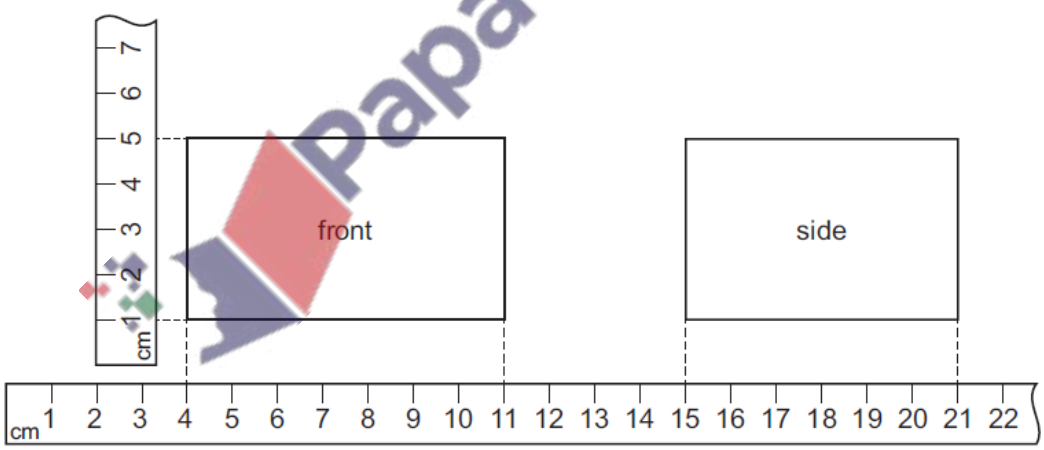


diagram 2

Metre rules have been shown close to the edges of the block.

What is the volume of the block?

A 120 cm^3 **B** 168 cm^3 **C** 264 cm^3 **D** 1155 cm^3

11. June/2020/Paper_23/No.8

Which quantity is **not** a vector?

A acceleration

B temperature

C velocity

D weight

12. June/2020/Paper_31/No.1(a)

Fig. 1.1 shows a coil of wire.

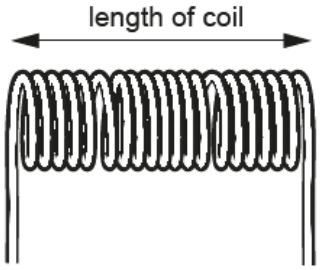


Fig. 1.1 (not to scale)

(a) A student measures the length of the coil using a ruler. His measurement is 3.8 cm.

There are 20 turns of wire in the coil. The student uses his measurement to calculate the average thickness of the wire.

(i) Show that the average thickness of the wire is about 0.2 cm.

average thickness of wire = ... cm [2]

(ii) The student's measurement of 3.8 cm is inaccurate.

Suggest **one** reason why the measurement is inaccurate.

.....

..... [1]

13. June/2020/Paper_32/No.1

Some students observe drops of water falling from a tap that leaks, as shown in Fig. 1.1.

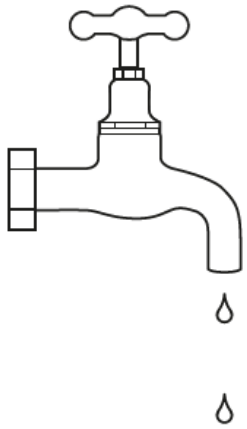


Fig. 1.1

(a) The students measure the time for 50 drops to fall from the tap. The time for 50 drops to fall is 20 s.

Calculate the average time between two drops falling.

average time = ... s [2]

(b) The students collect some drops of water.

(i) The students measure the volume of the water they collect.

State the term for the equipment that is suitable for measuring the volume accurately.

..... [1]

(ii) In a similar experiment, another student collects 0.21 kg of water.

Calculate the weight of this water.

weight of water = ... N [3]

[Total: 6]