

Physics
PAPER 2
Foundation Tier

Friday 14 June 2024 – Afternoon

Time: 1 hour 45 minutes

Diagram Booklet

THIS DIAGRAM BOOKLET MUST BE RETURNED WITH THE QUESTION PAPER AT THE END OF THE EXAMINATION.

In the boxes below, write your name, centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

INSTRUCTIONS

There may be spare copies of some diagrams in case you need them.

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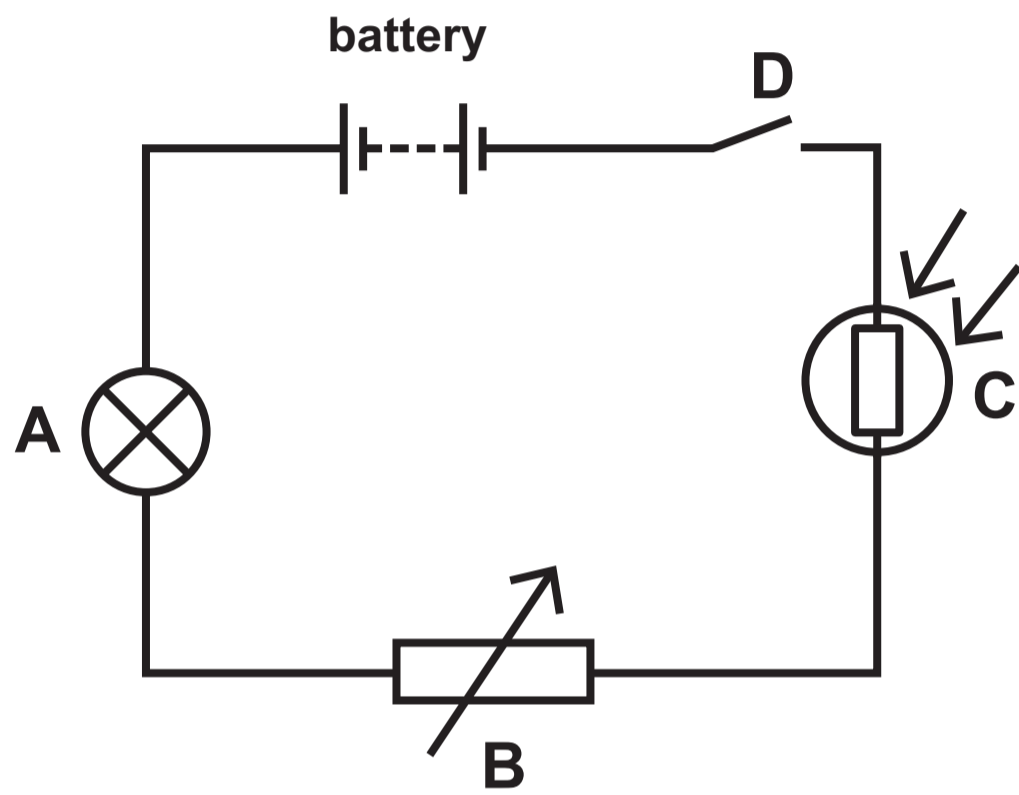
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Question 1(a)

FIGURE 1



Question 1(a)

ammeter

lamp

LDR

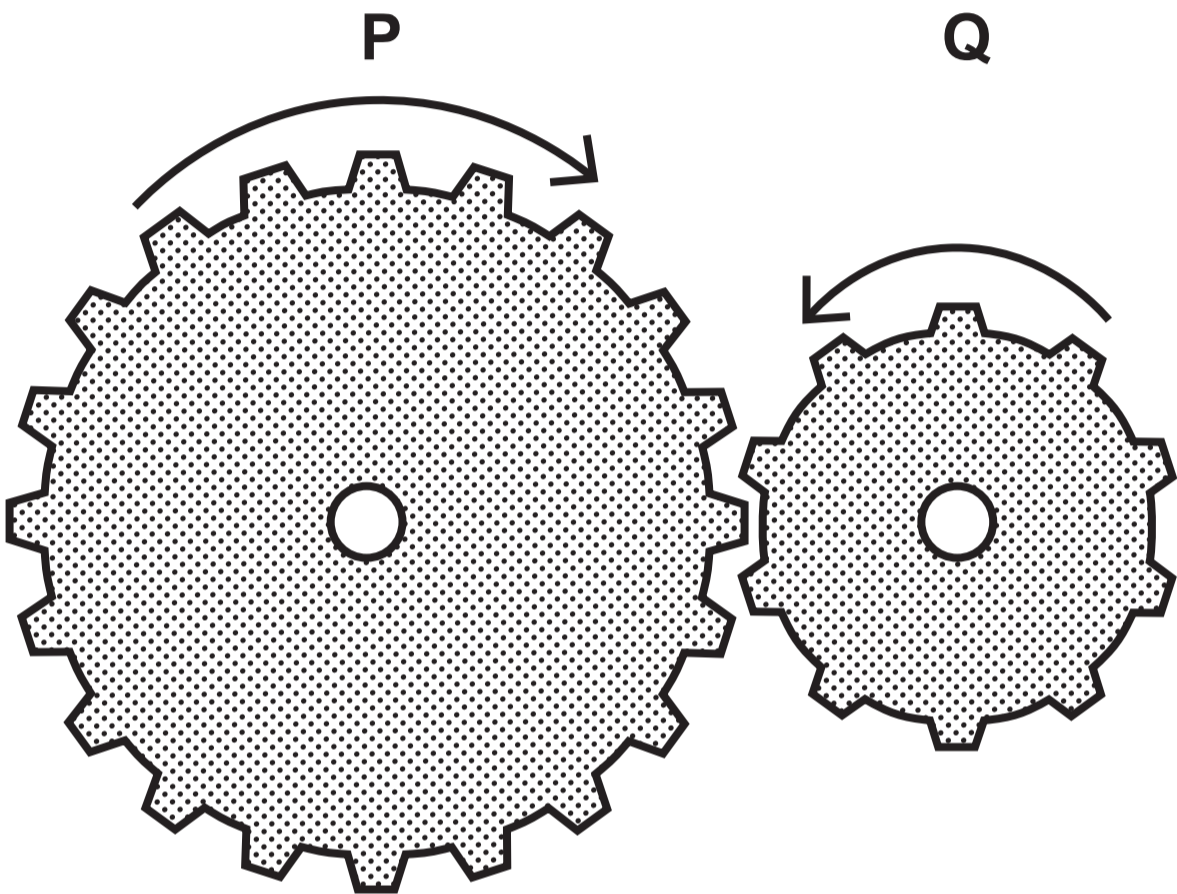
switch

thermistor

variable resistor

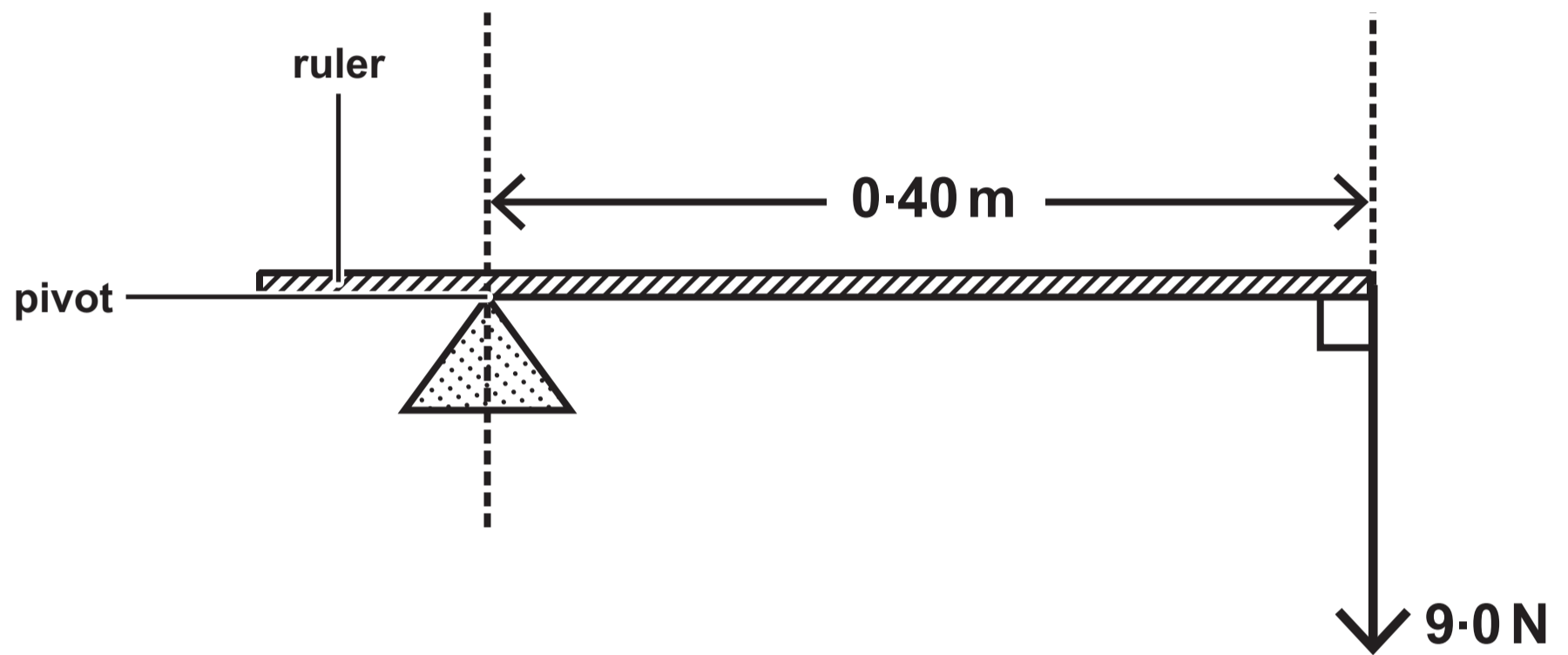
Question 2(a)

FIGURE 2



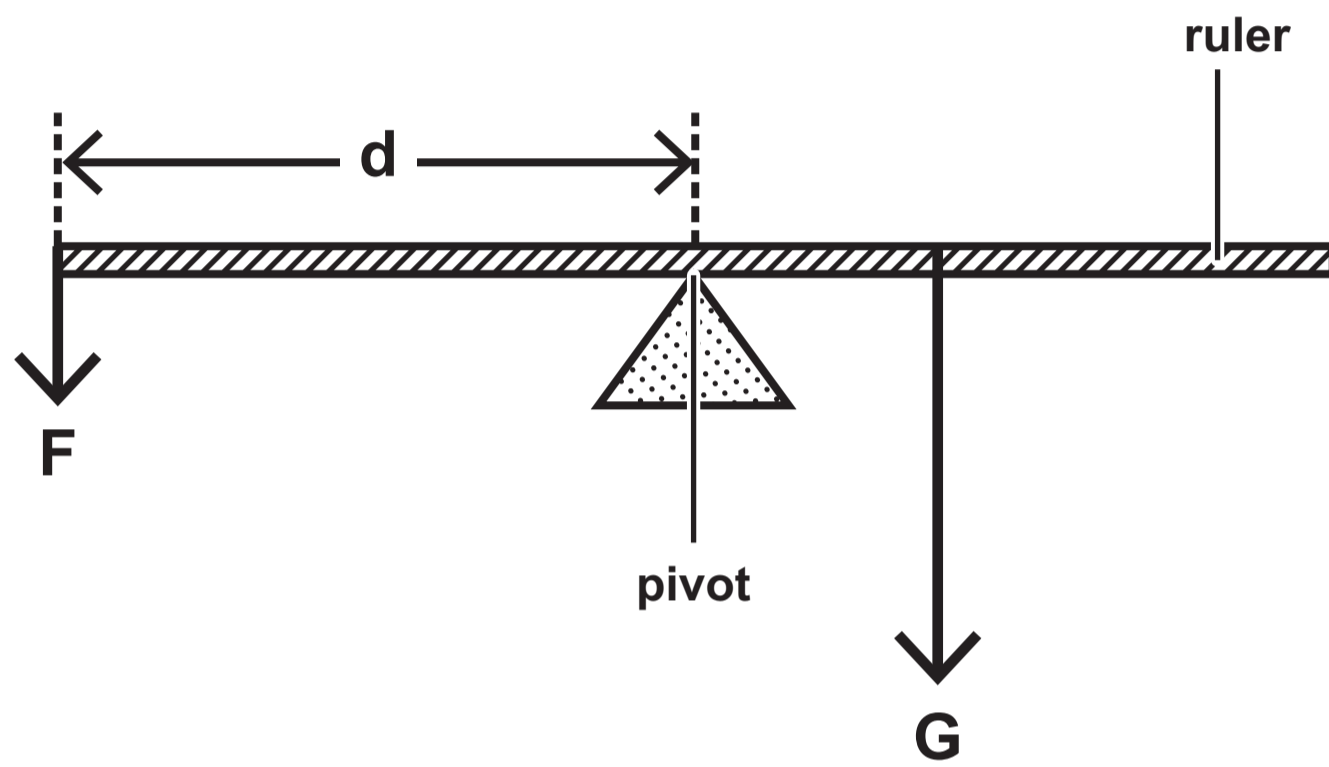
Question 2(b)

FIGURE 3



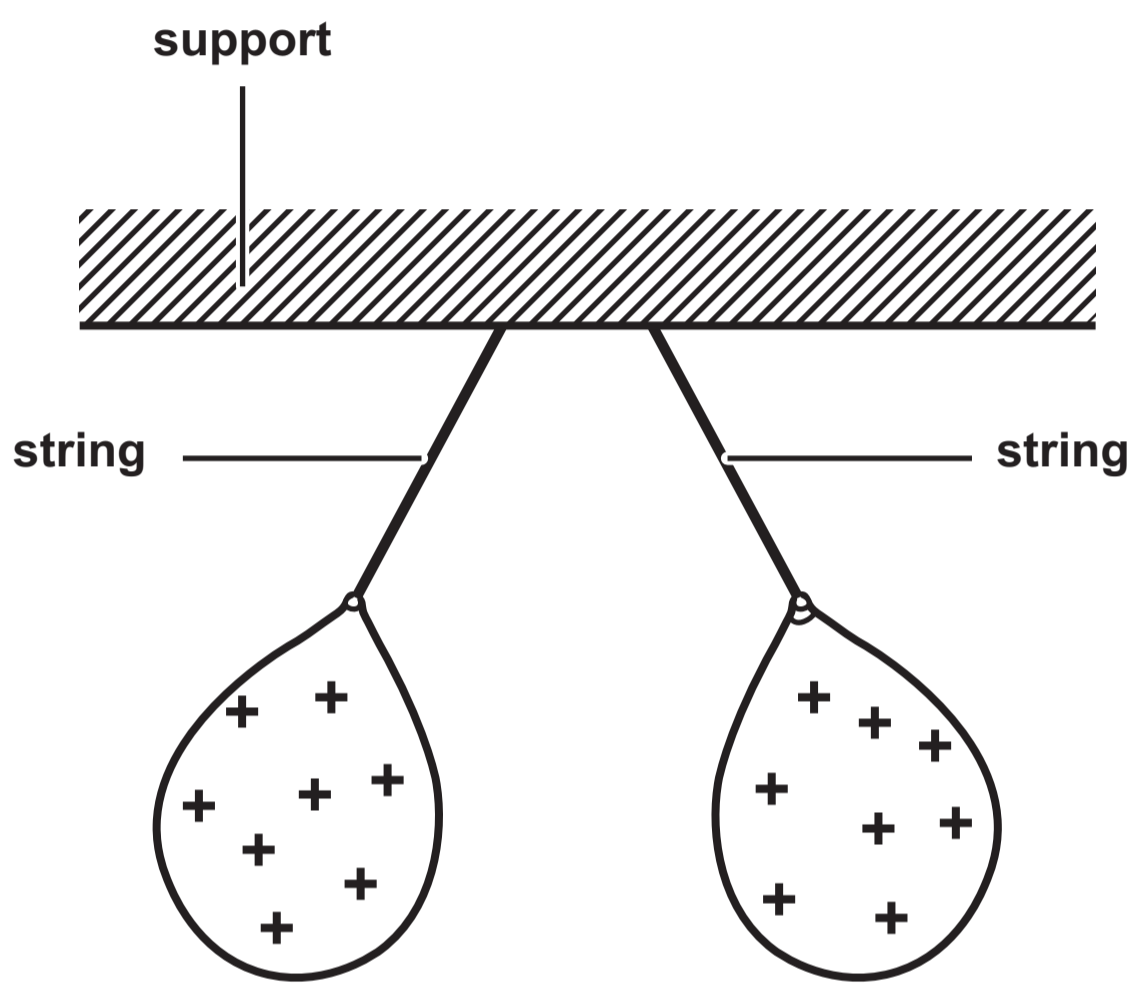
Question 2(c)

FIGURE 4



Question 3

FIGURE 5



Question 3(a)

ampere

attract

coulomb

electrons

negative

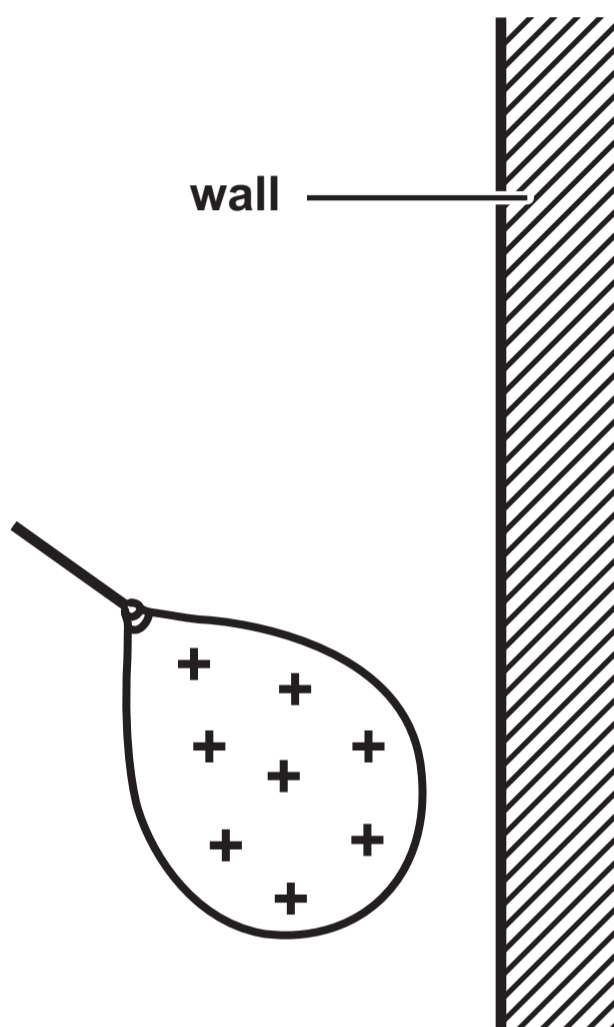
positive

protons

repel

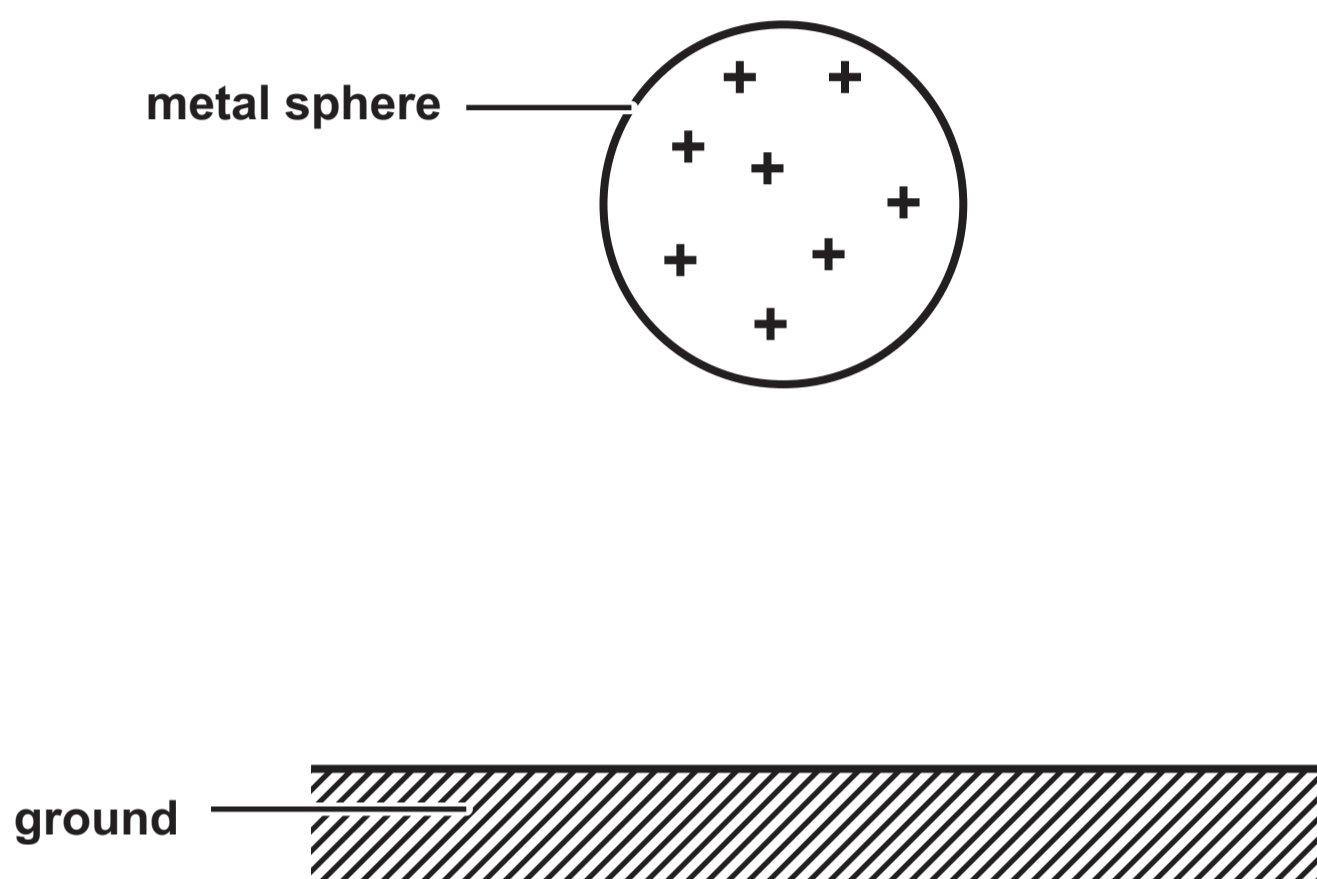
Question 3(b)

FIGURE 6



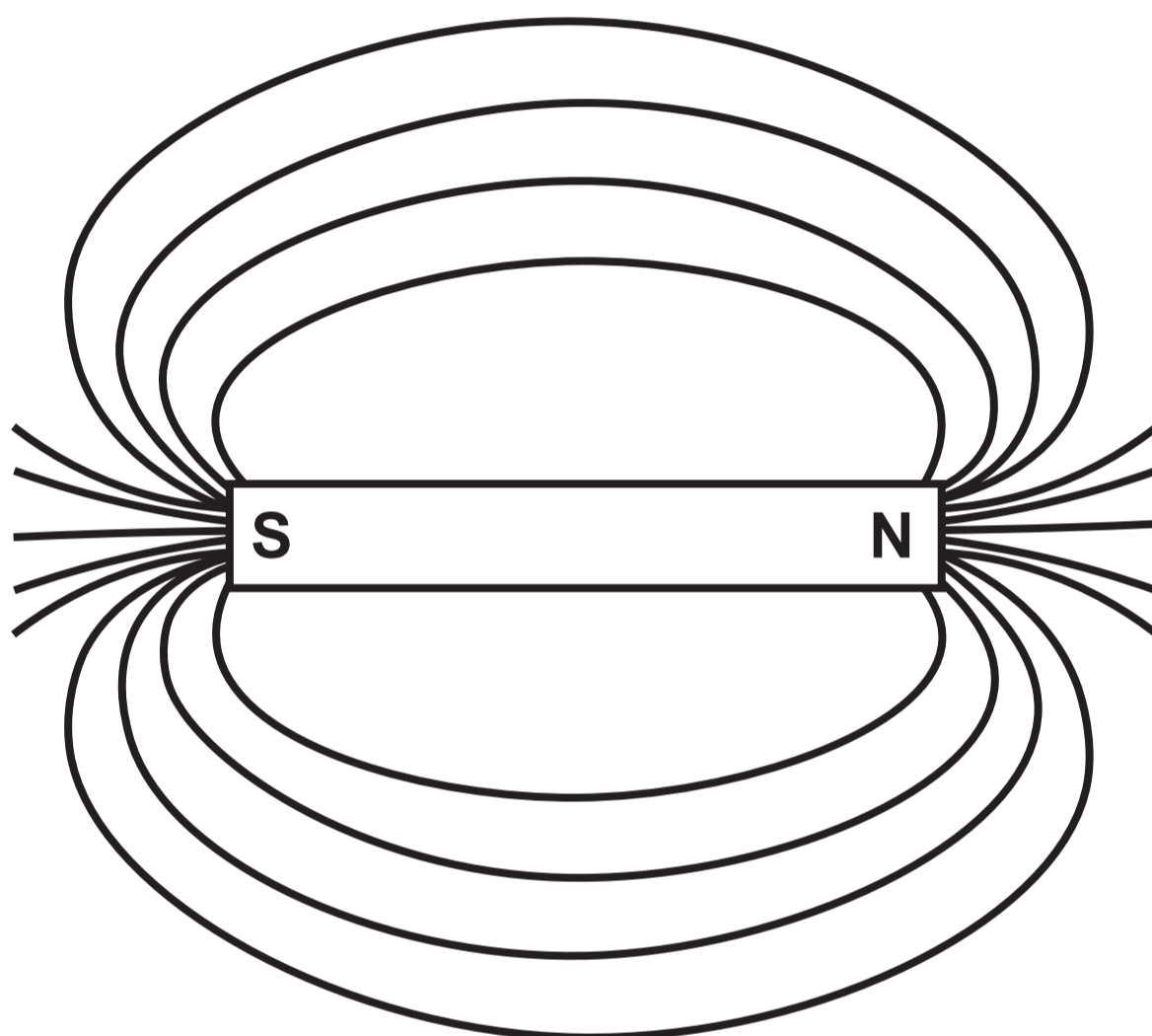
Question 3(c)

FIGURE 7



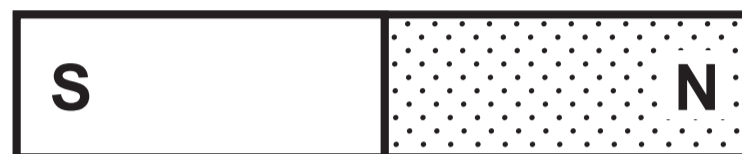
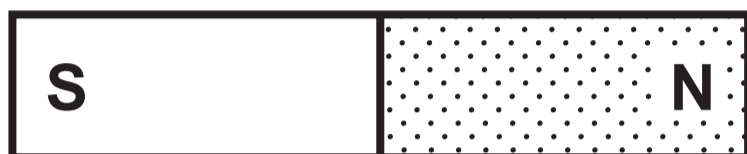
Question 4(a)

FIGURE 8



Question 4(b)

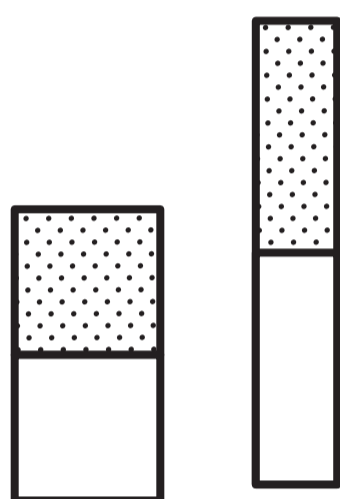
FIGURE 9



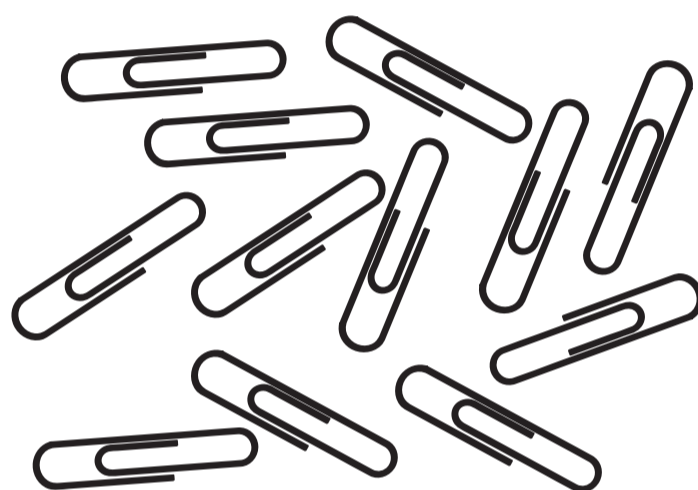
Question 4(c)

FIGURE 10

two permanent magnets

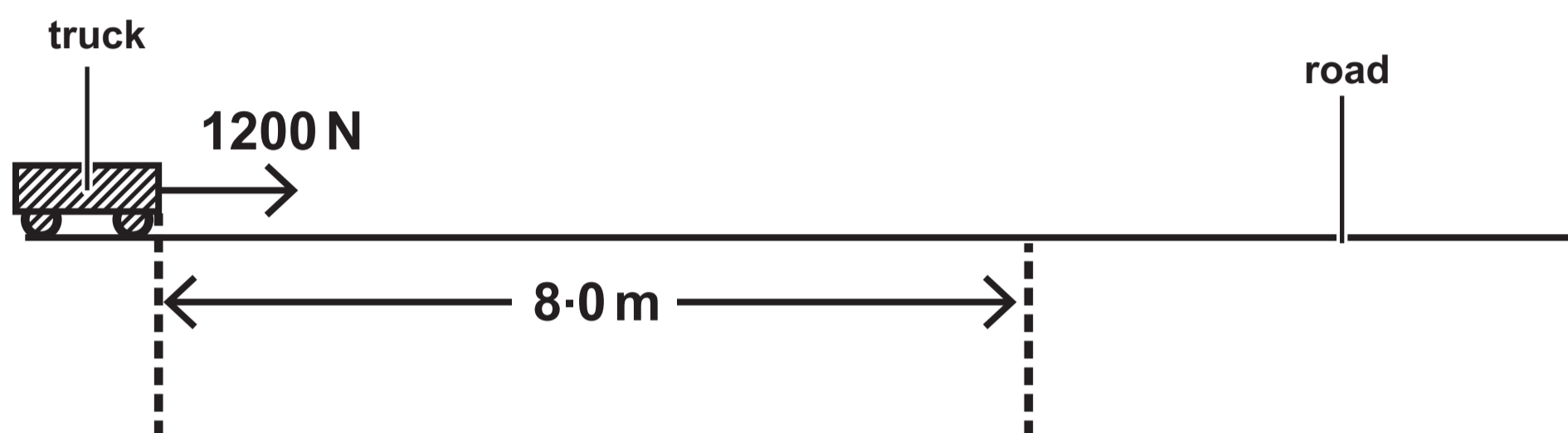


paper clips



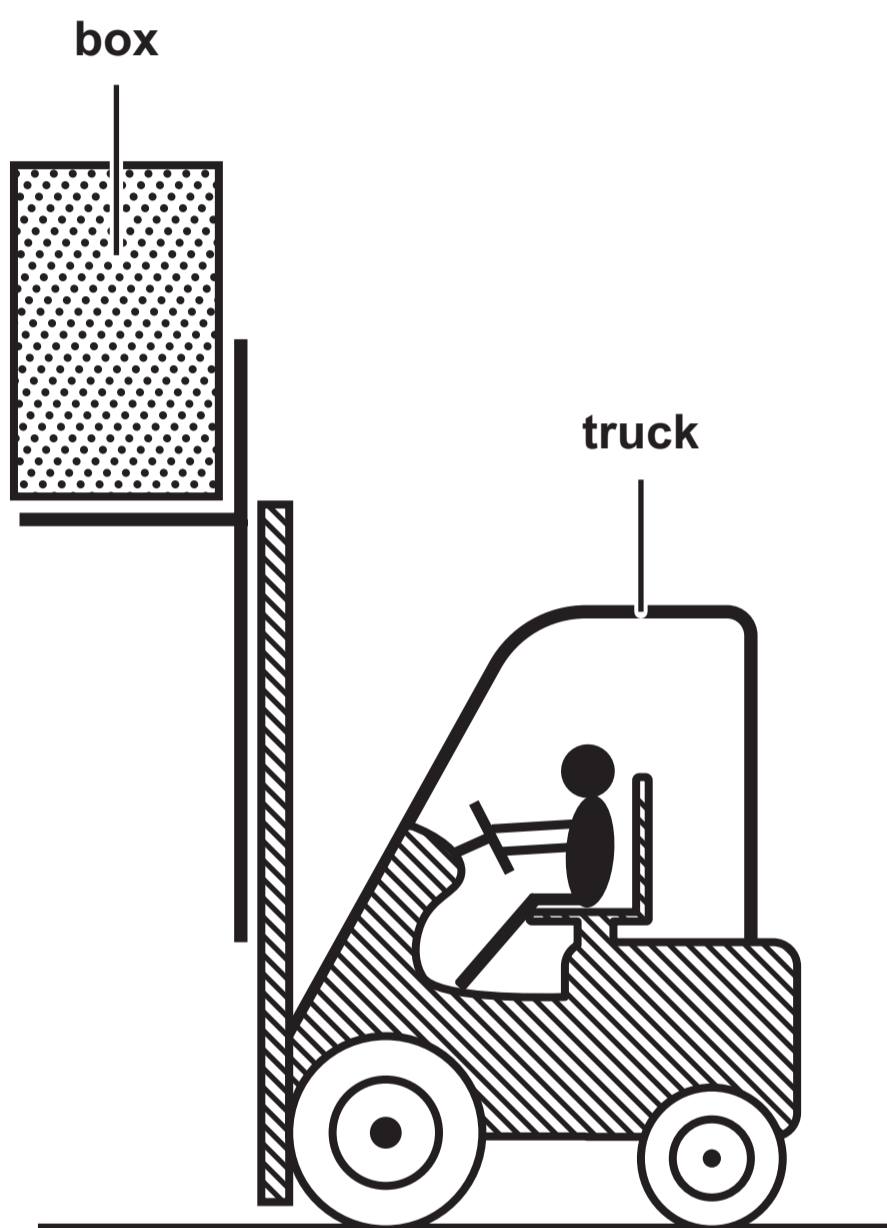
Question 5(a)

FIGURE 11



Question 5(c)

FIGURE 12

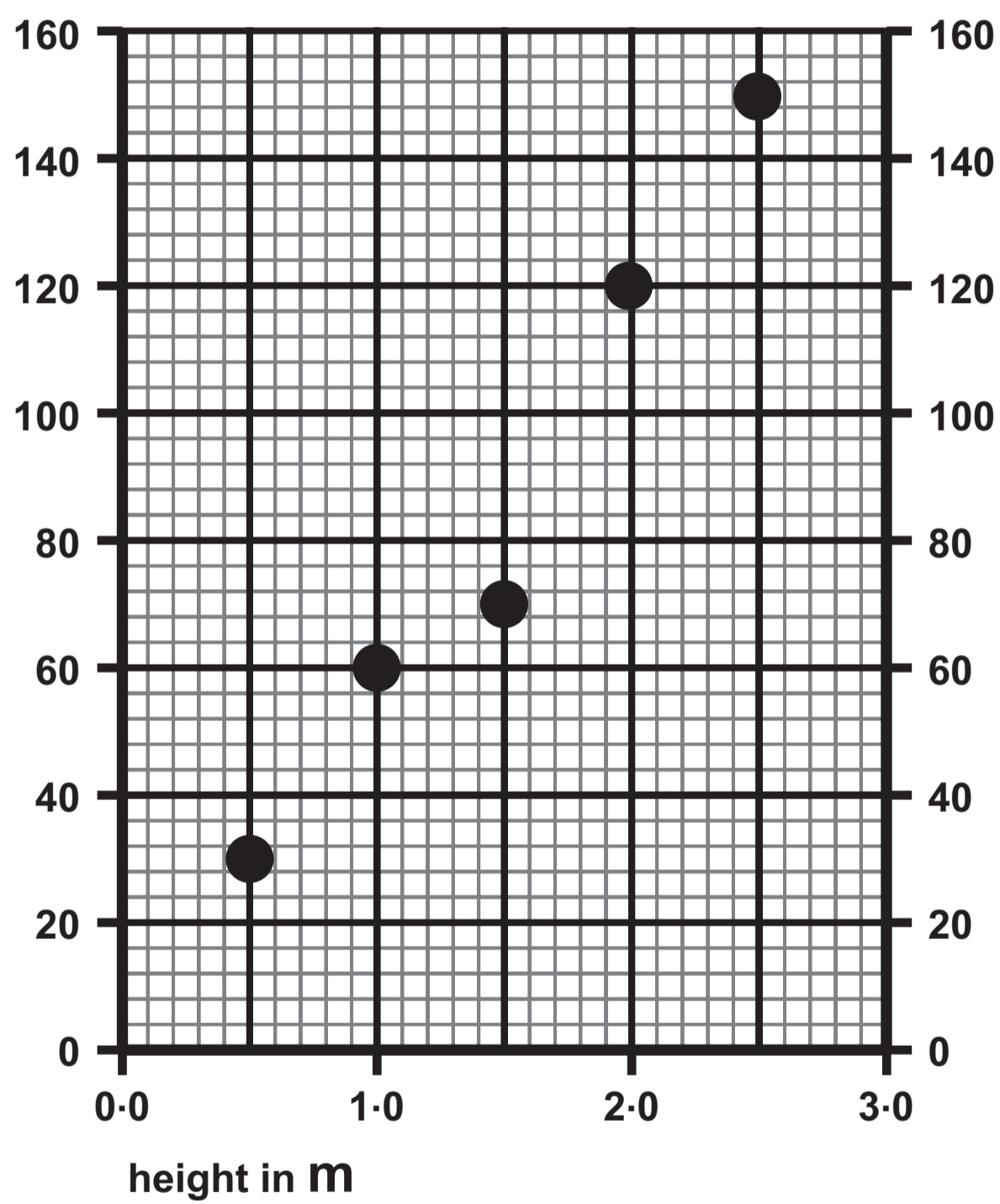


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Question 5(c) continued.

FIGURE 13

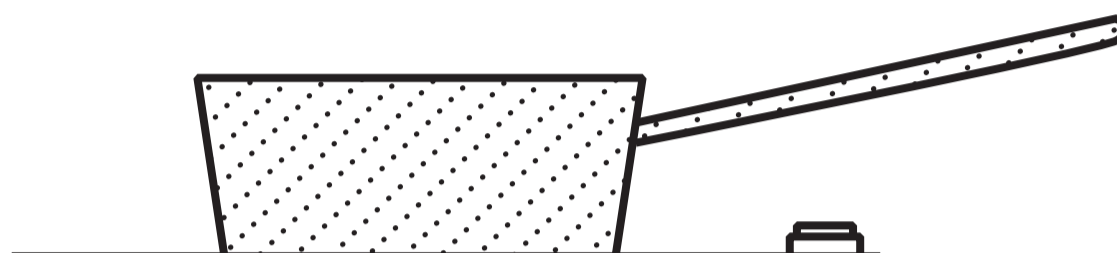
$\Delta\text{GPE in J}$



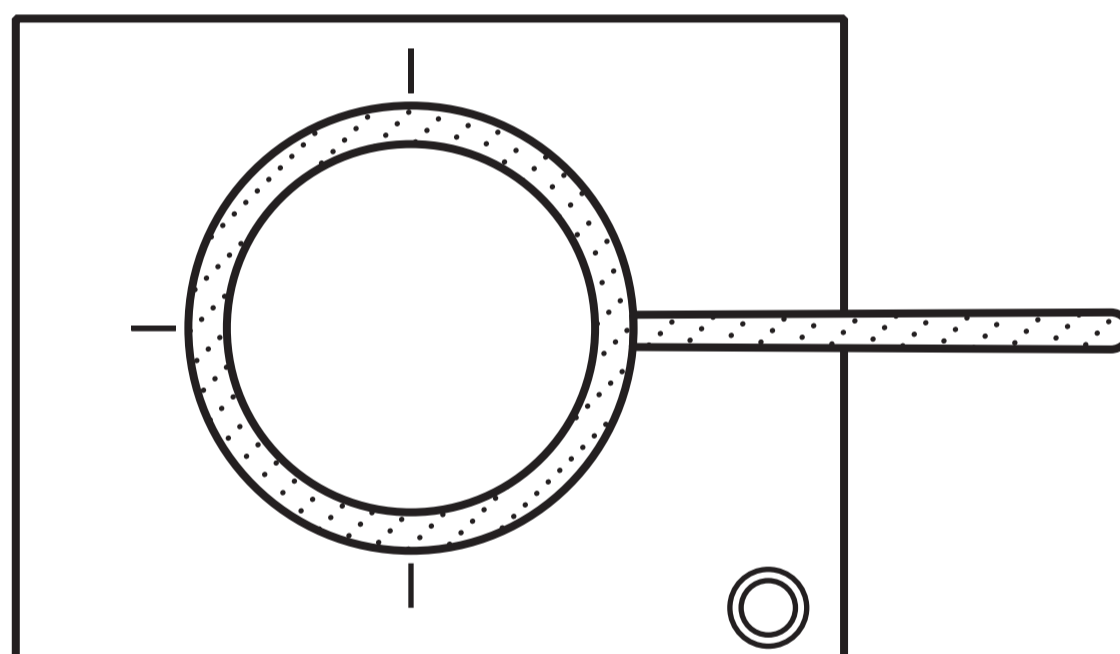
Question 6

FIGURE 14

SIDE VIEW



TOP VIEW



Question 6(a)

FIGURE 15

mass of milk	0.82 kg
starting temperature of milk	10 °C
final temperature of milk	40 °C
change in thermal energy of milk	96 000 J

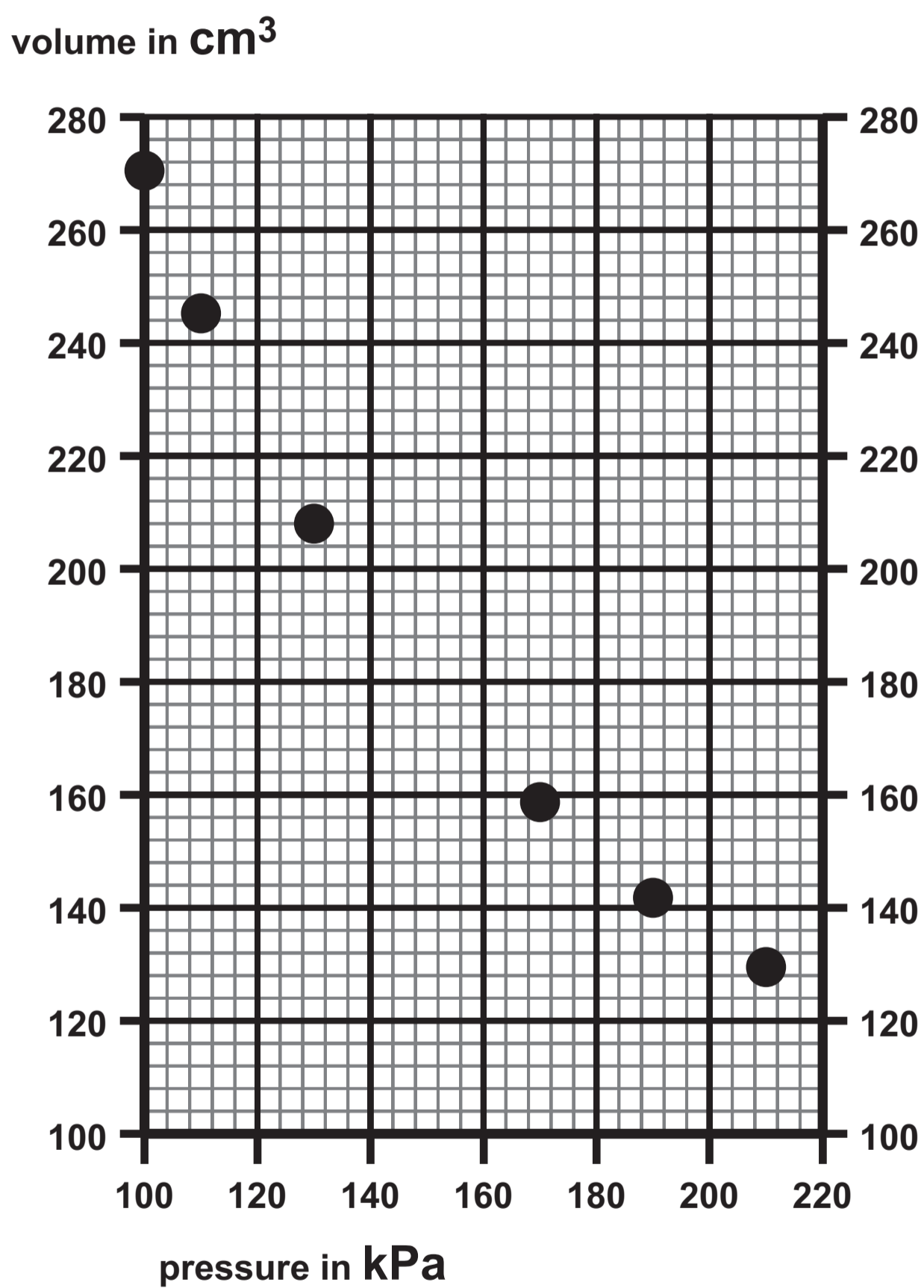
Question 7(a)

FIGURE 16

pressure in kPa	volume in cm ³
100	270
110	245
130	208
150	180
170	159
190	142
210	129

Question 7(a)

FIGURE 17



Question 7(b)(i)**FIGURE 18**

Question 7(b)(ii)

Not to scale

FIGURE 19A

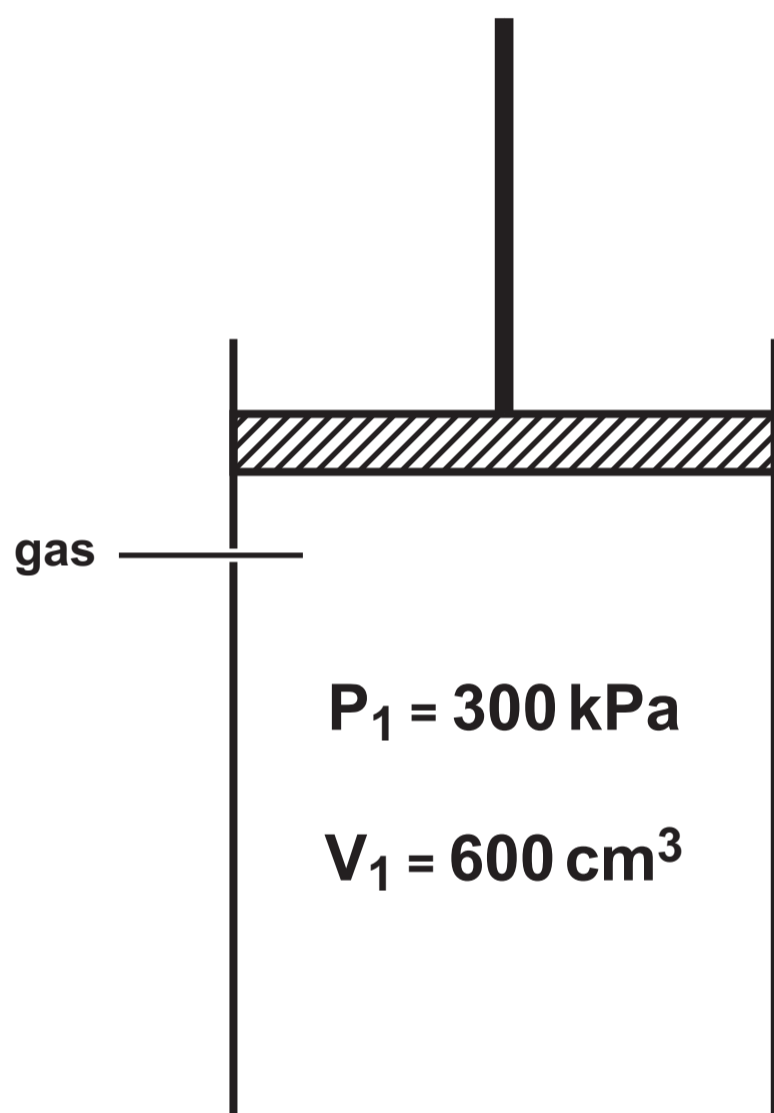
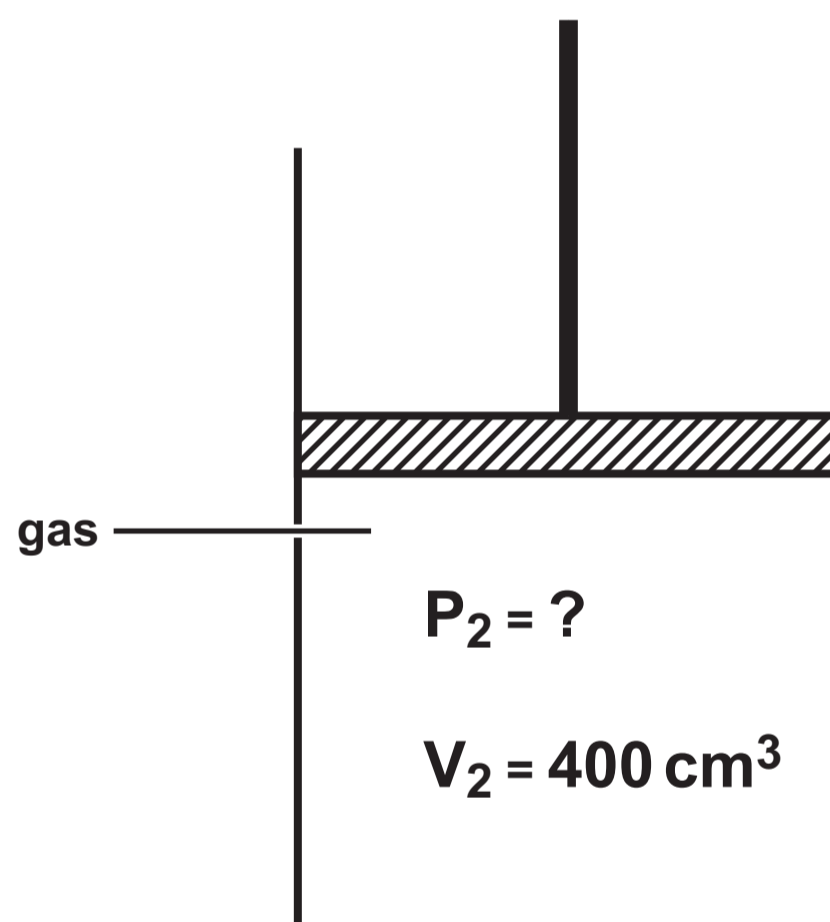
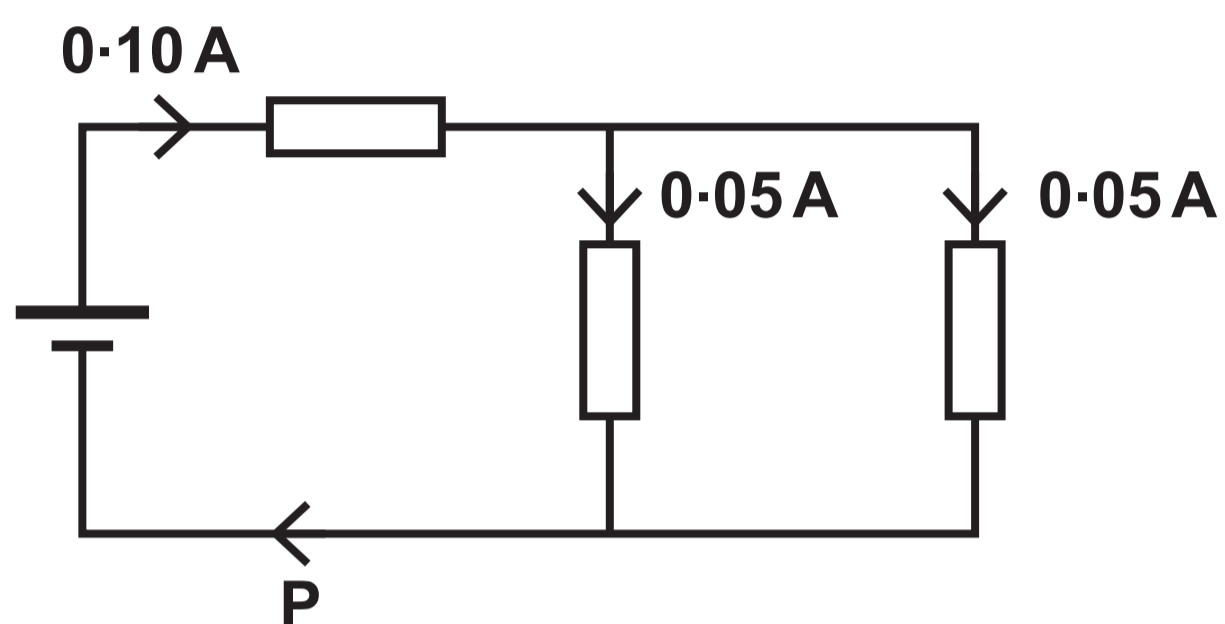


FIGURE 19B



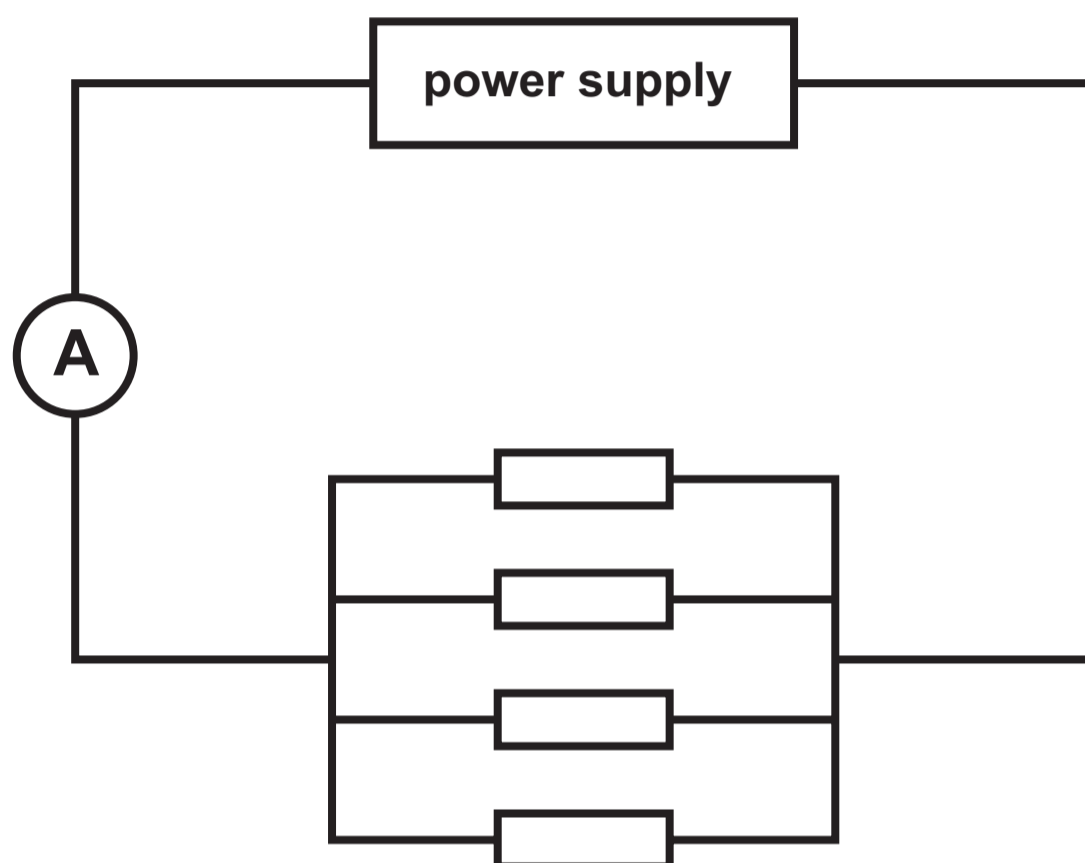
Question 8(a)

FIGURE 20



Question 8(b)

FIGURE 21



Question 8(b)

FIGURE 22

number of resistors	current in mA	voltage in V
4		6.00
3	27.3	6.00
2	18.2	6.00
1	9.1	6.00

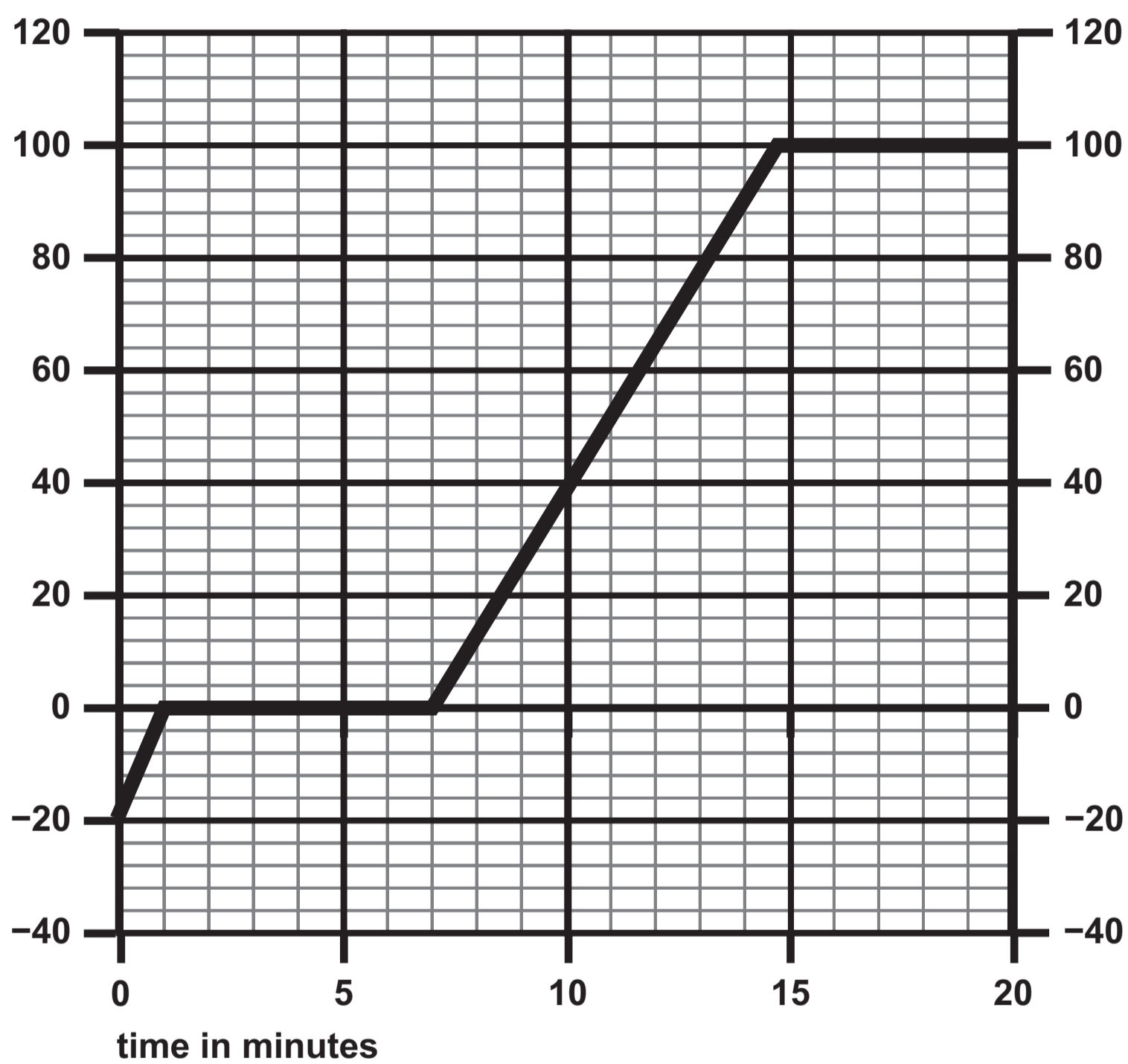
Question 9(b)

FIGURE 23

	density in g/cm ³
solid aluminium	2·70
liquid aluminium	2·38

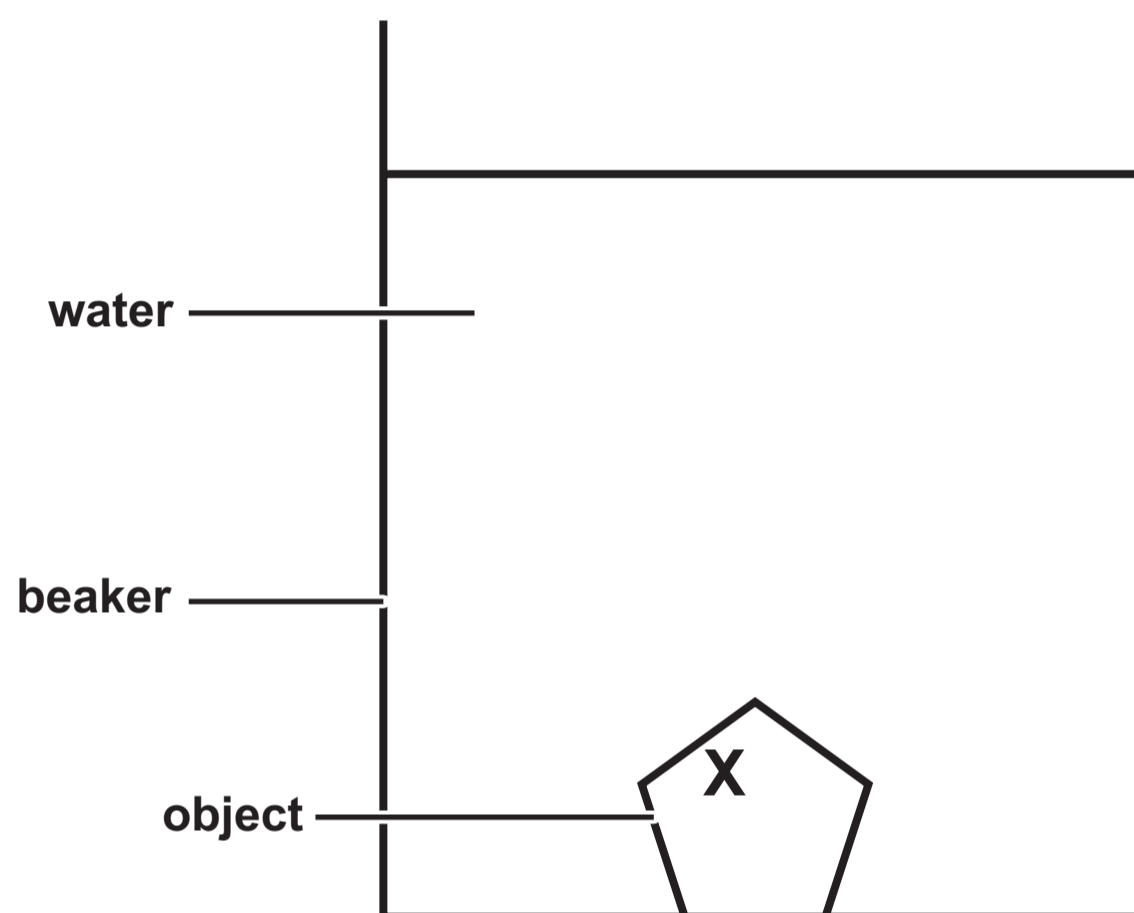
Question 9(d)

FIGURE 24

temperature in $^{\circ}\text{C}$ 

Question 10(a)

FIGURE 25



(continued on the next page)

Question 10(a) continued.

diagram A

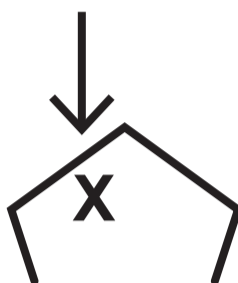


diagram B



diagram C

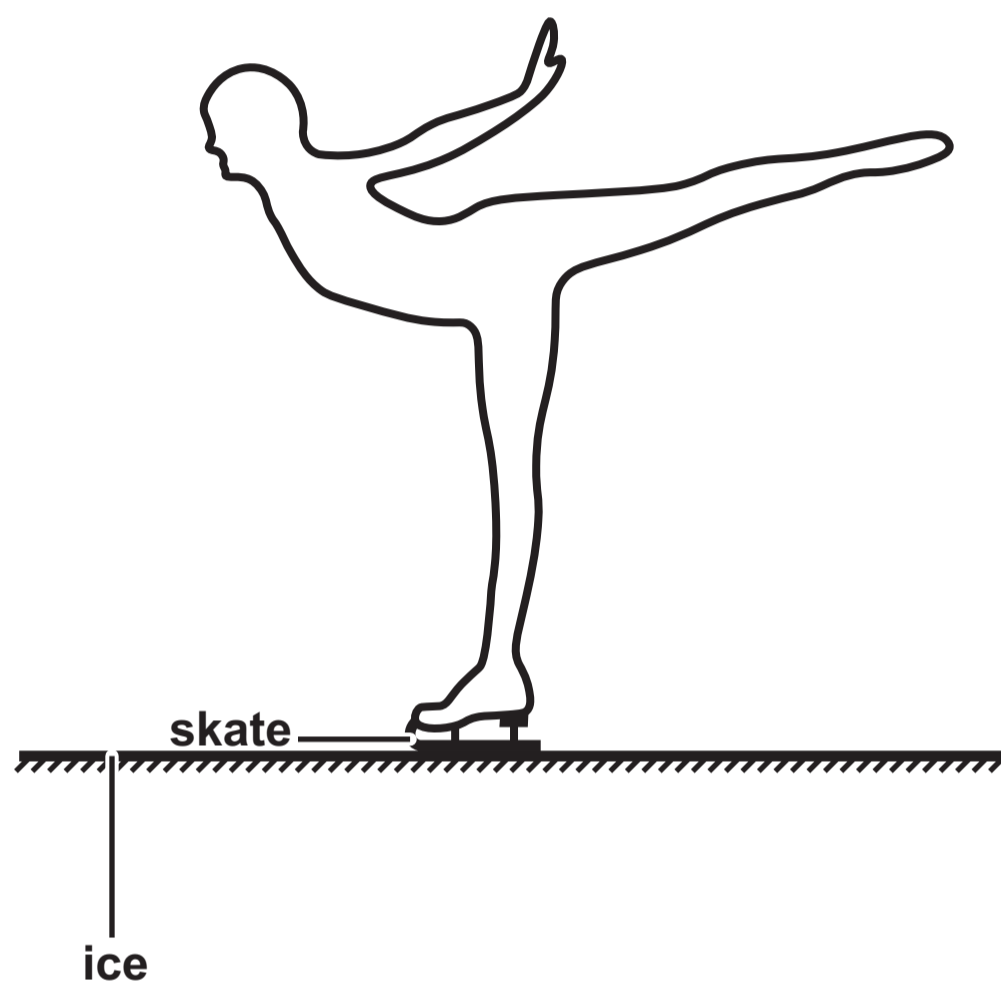


diagram D



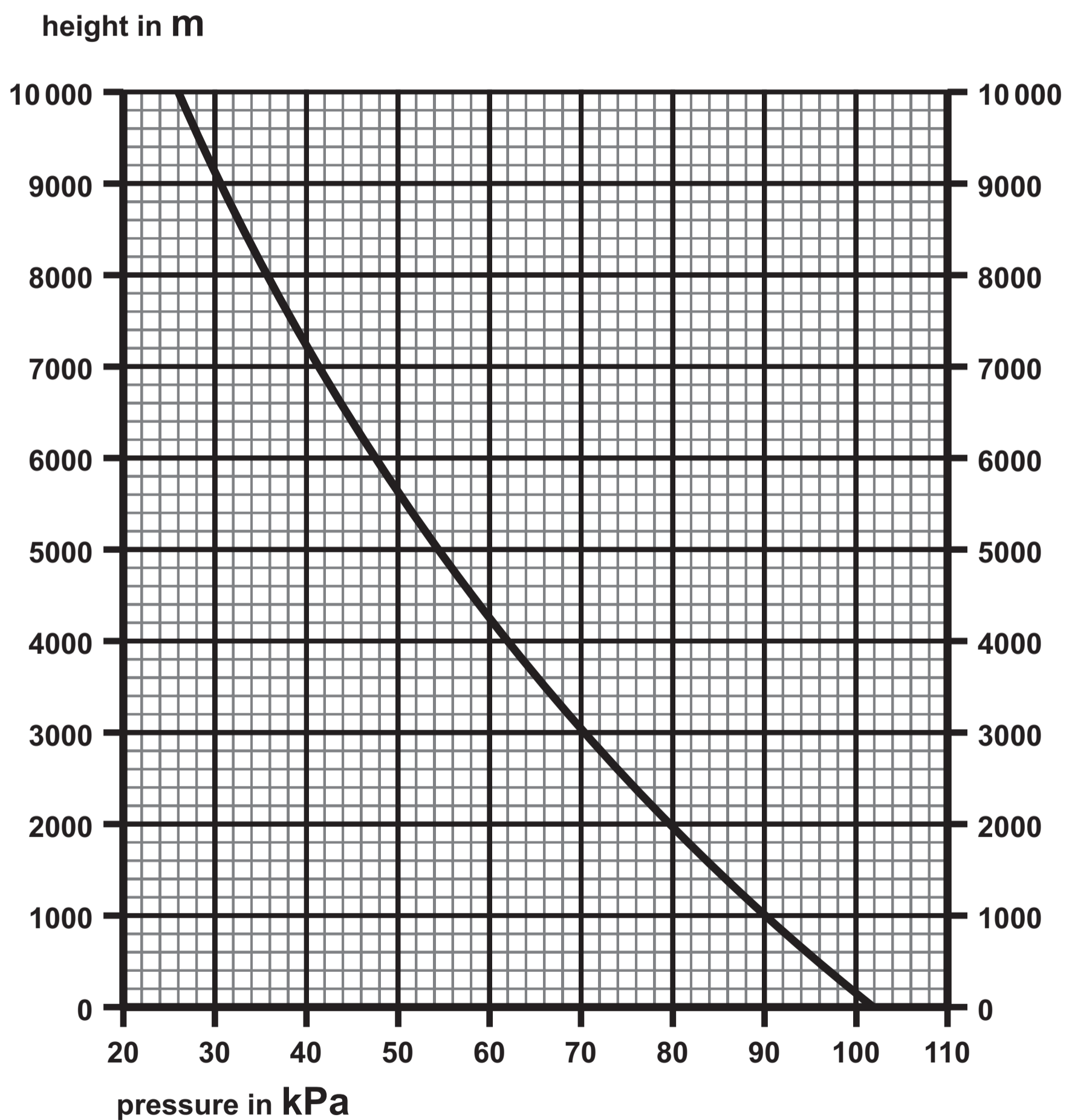
Question 10(b)

FIGURE 26



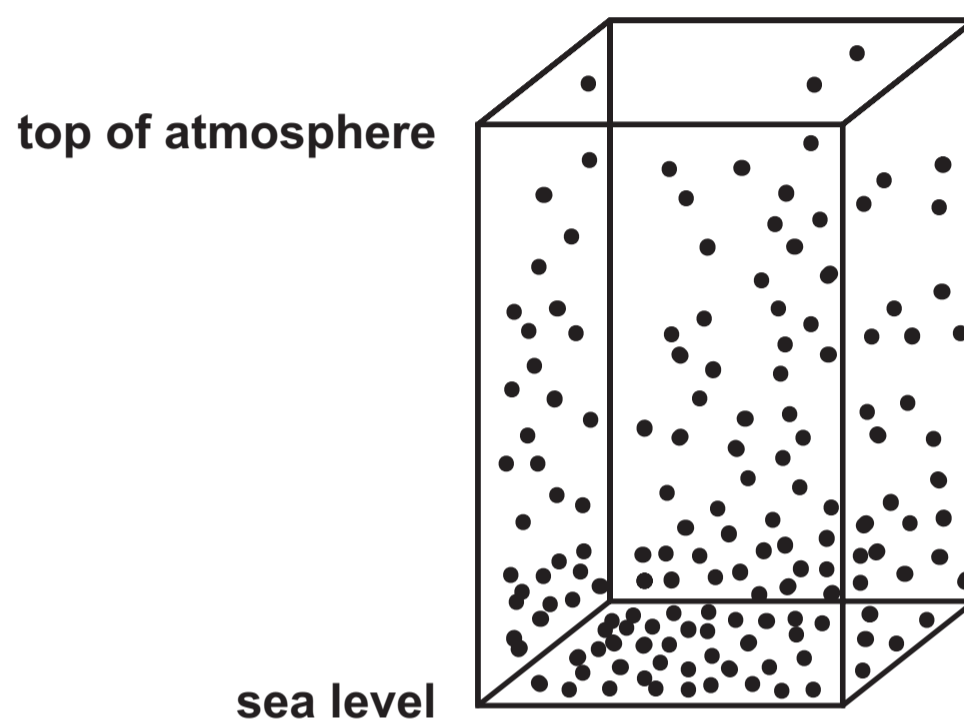
Question 10(c)

FIGURE 27



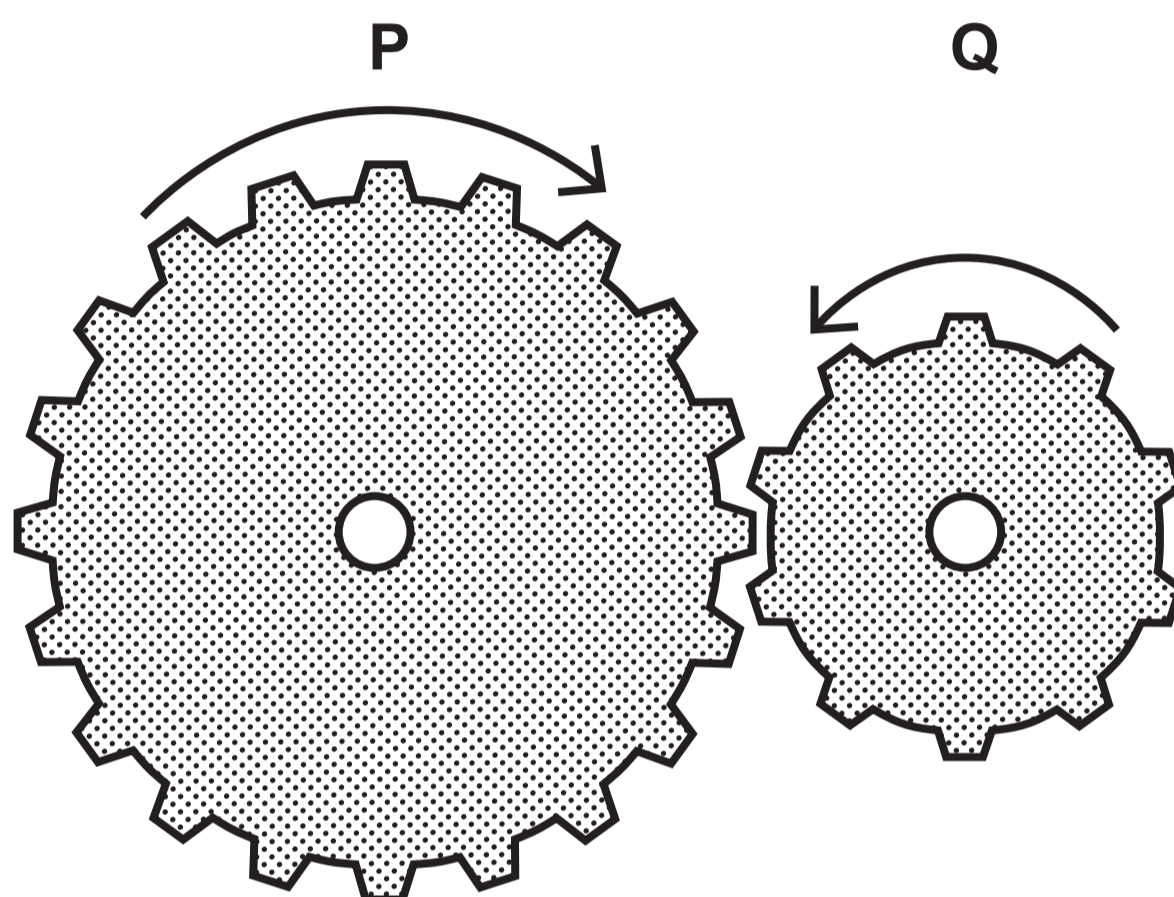
Question 10(d)

FIGURE 28



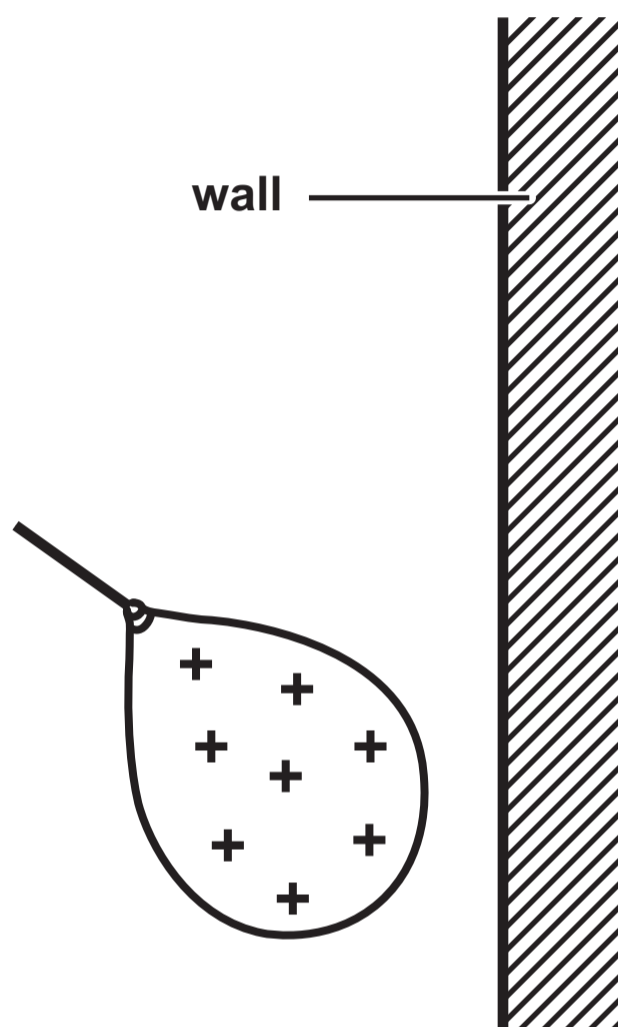
Question 2(a)

FIGURE 2



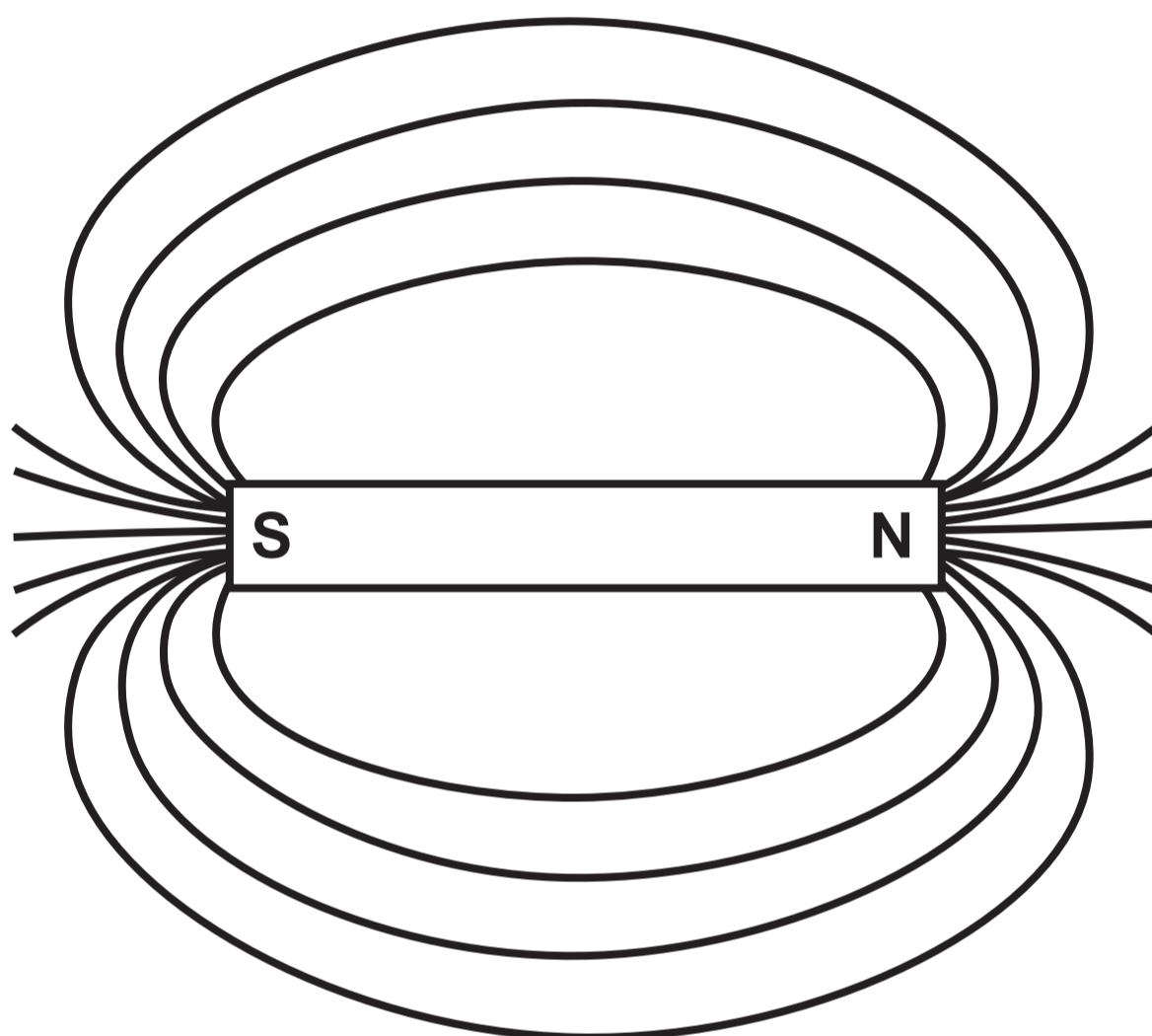
Question 3(b)

FIGURE 6



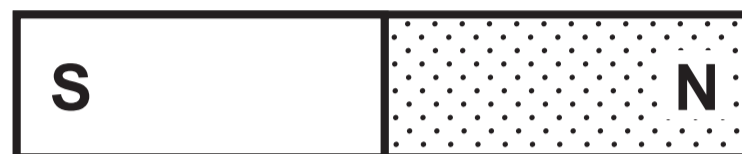
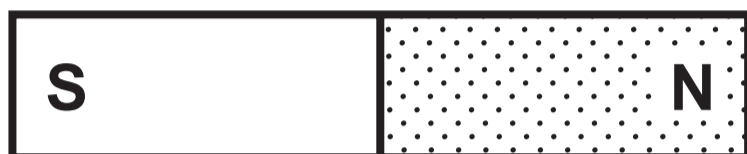
Question 4(a)

FIGURE 8



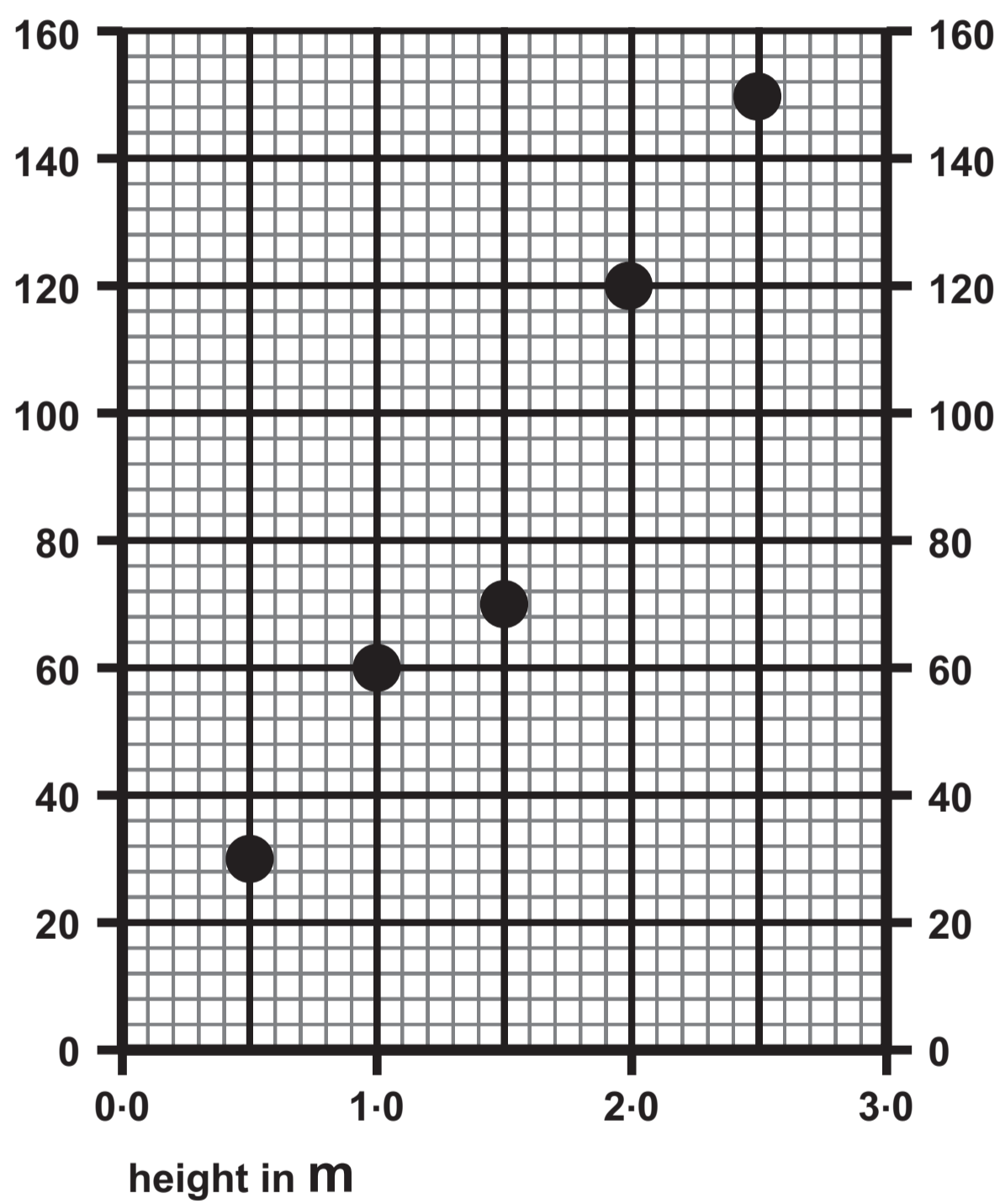
Question 4(b)

FIGURE 9



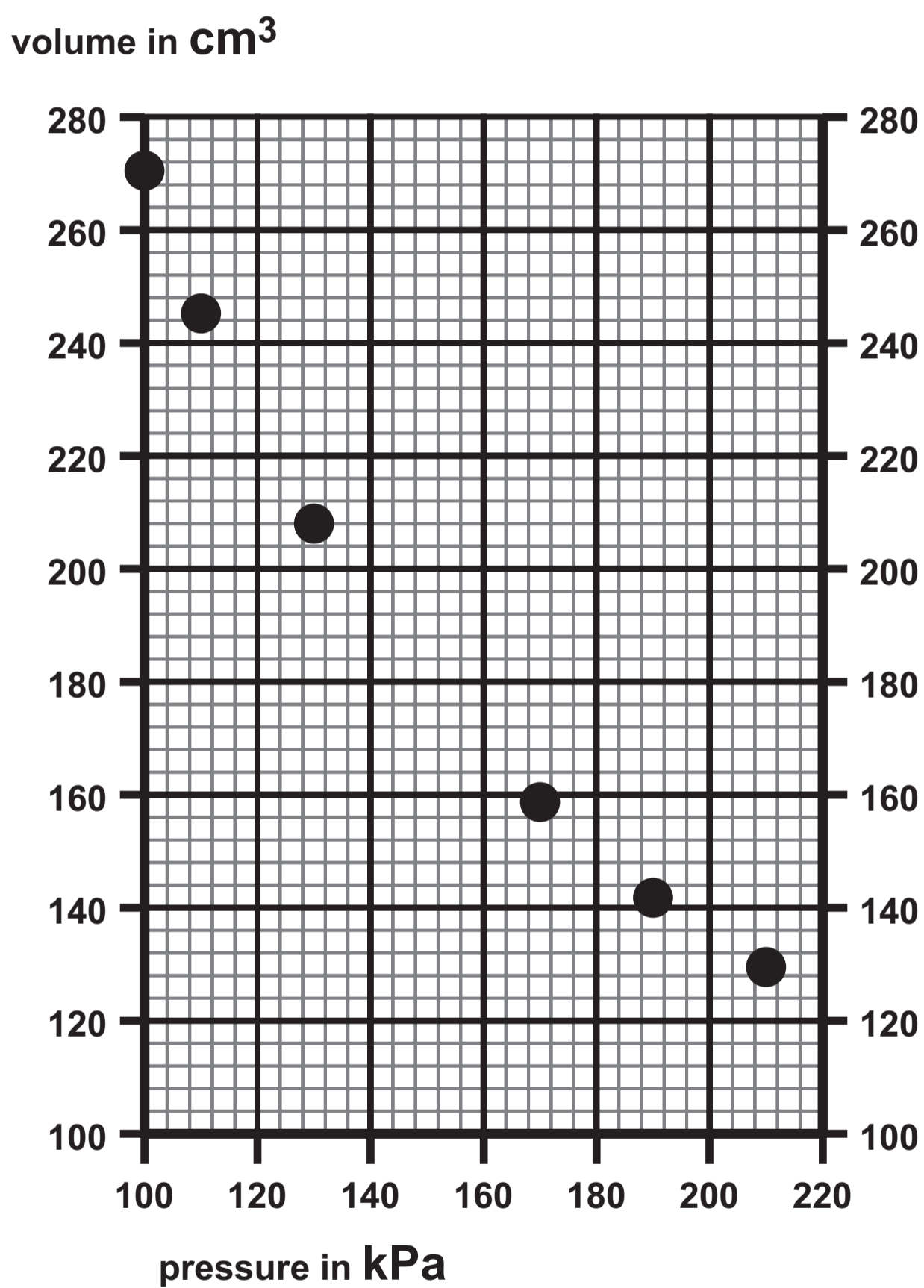
Question 5(c)

FIGURE 13

 $\Delta\text{GPE in J}$ 

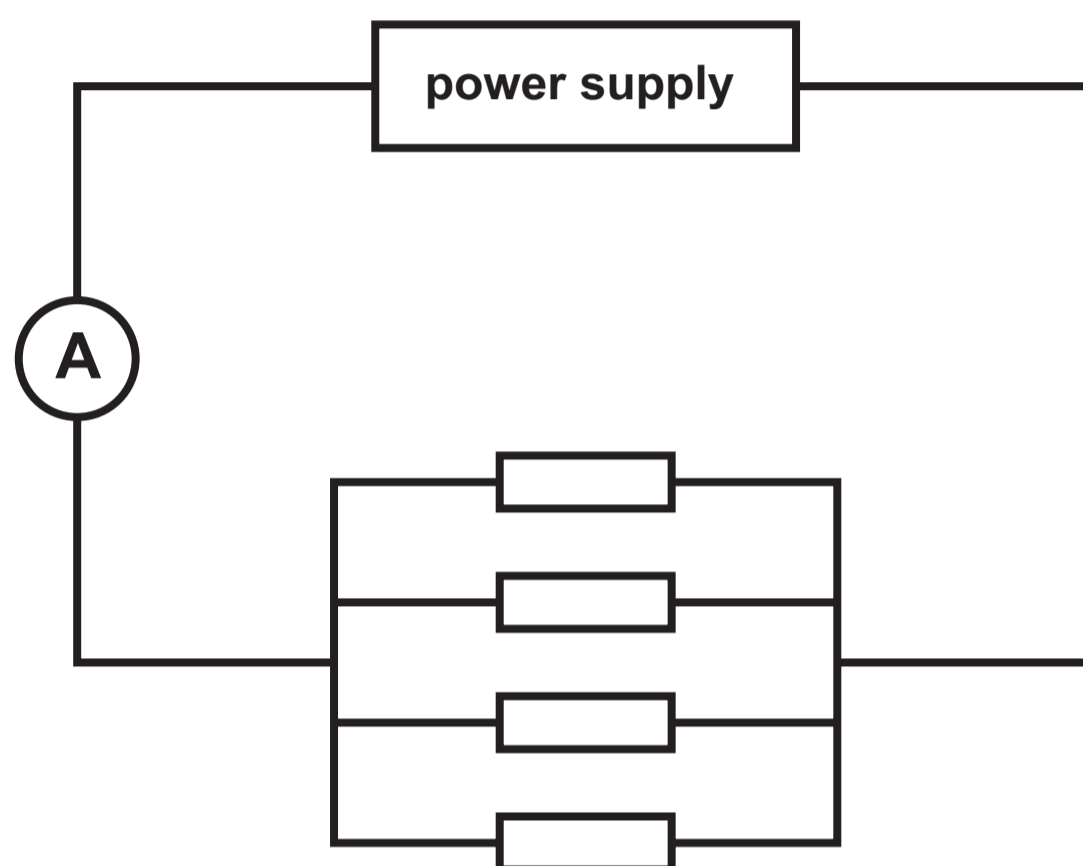
Question 7(a)

FIGURE 17



Question 8(b)

FIGURE 21



Question 6

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