

Physics  
PAPER 2  
Foundation Tier

Diagram Booklet

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.

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

## **Contents**

### **Page**

<b>5</b>	<b>Question 1(a)</b>
<b>6</b>	<b>Question 1(a) (Spare copy)</b>
<b>7</b>	<b>Question 1(b)</b>
<b>8</b>	<b>Question 2(a)</b>
<b>9</b>	<b>Question 2(b)</b>
<b>10</b>	<b>Question 2(c)</b>
<b>11</b>	<b>Question 2(d)</b>
<b>12</b>	<b>Question 3(a)</b>
<b>13</b>	<b>Question 3(a) (Spare copy)</b>
<b>14</b>	<b>Question 3(c)</b>
<b>15</b>	<b>Question 4(a)</b>
<b>16</b>	<b>Question 4(b)(i)</b>
<b>17</b>	<b>Question 4(b)(ii)</b>
<b>18</b>	<b>Question 5(a)</b>
<b>19</b>	<b>Question 5(c) (not to scale)</b>
<b>20</b>	<b>Question 6(a)</b>
<b>21</b>	<b>Question 6(b)</b>
<b>22</b>	<b>Question 7(a)</b>
<b>23</b>	<b>Question 7(c)(ii)</b>
<b>24</b>	<b>Question 7(c)(iii)</b>
<b>25</b>	<b>Question 8(a)</b>

**(continued on the next page)**

**Contents (continued)****Page**

<b>26</b>	<b>Question 8(b)</b>
<b>27</b>	<b>Question 9(b)</b>
<b>28</b>	<b>Question 9(d)</b>
<b>29</b>	<b>Question 10(a)(ii)</b>
<b>30</b>	<b>Question 10(b)</b>
<b>31</b>	<b>Question 10(b)</b>
<b>32</b>	<b>Question 10(b) (Spare copy)</b>

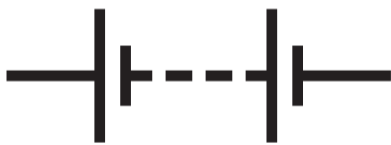
## Question 1(a)

circuit symbol

description



battery



LED



switch



resistor

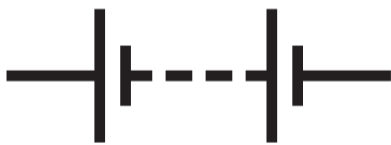
## Question 1(a)

circuit symbol

description



battery



LED



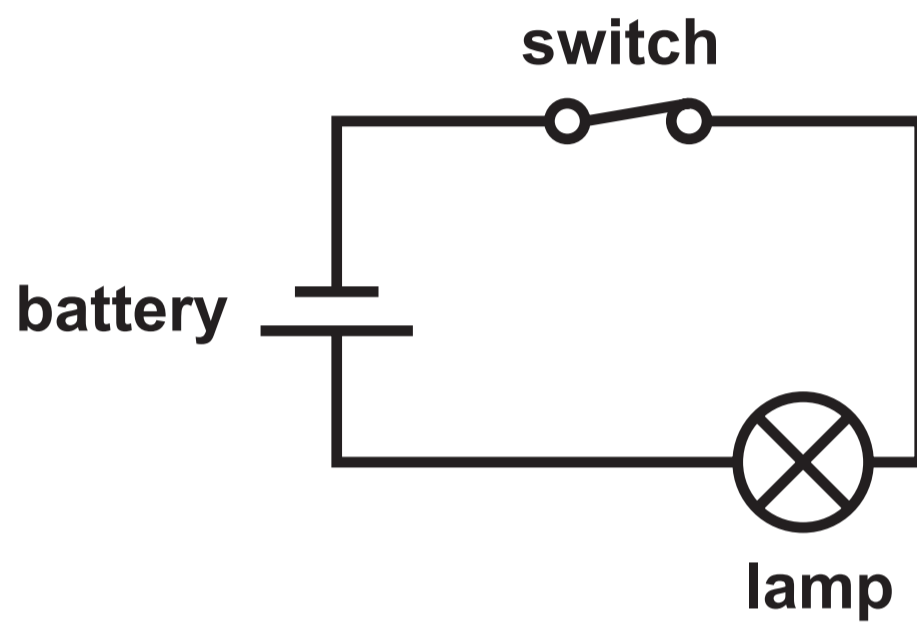
switch



resistor

## Question 1(b)

FIGURE 1



## Question 2(a)

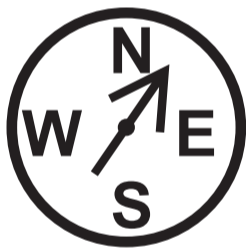
FIGURE 2



spring balance

☐

A



plotting compass

☐

B



thermometer

☐

C



variable resistor

☐

D

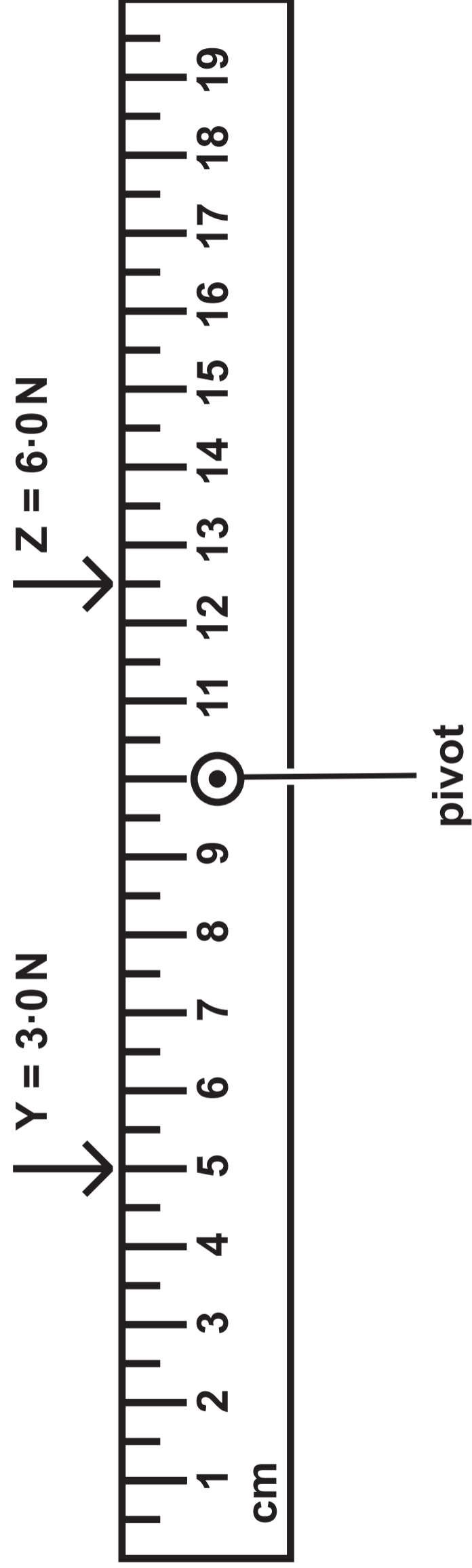
Question 2(b)

FIGURE 3



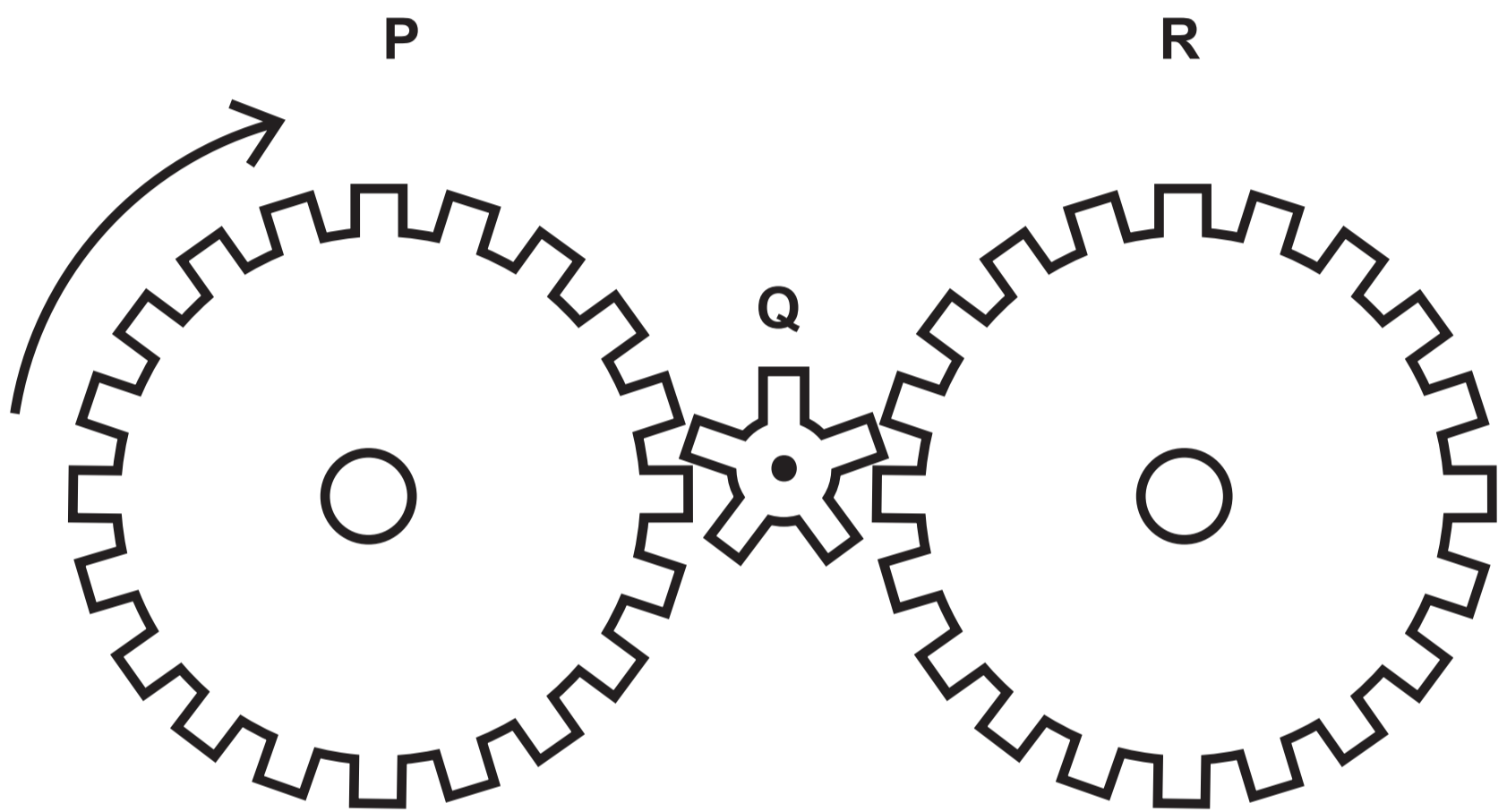
Question 2(c)

FIGURE 4



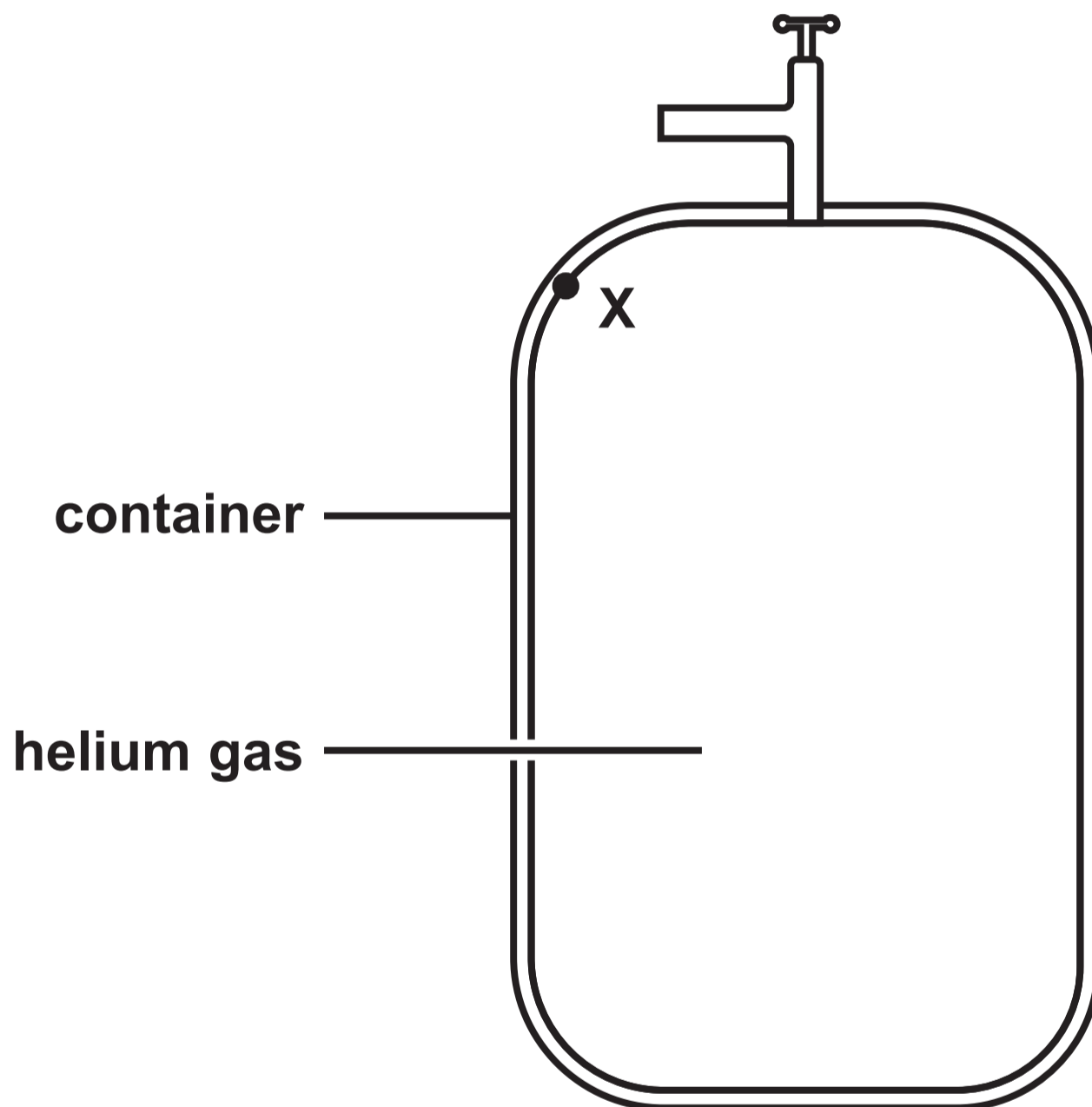
## Question 2(d)

FIGURE 5



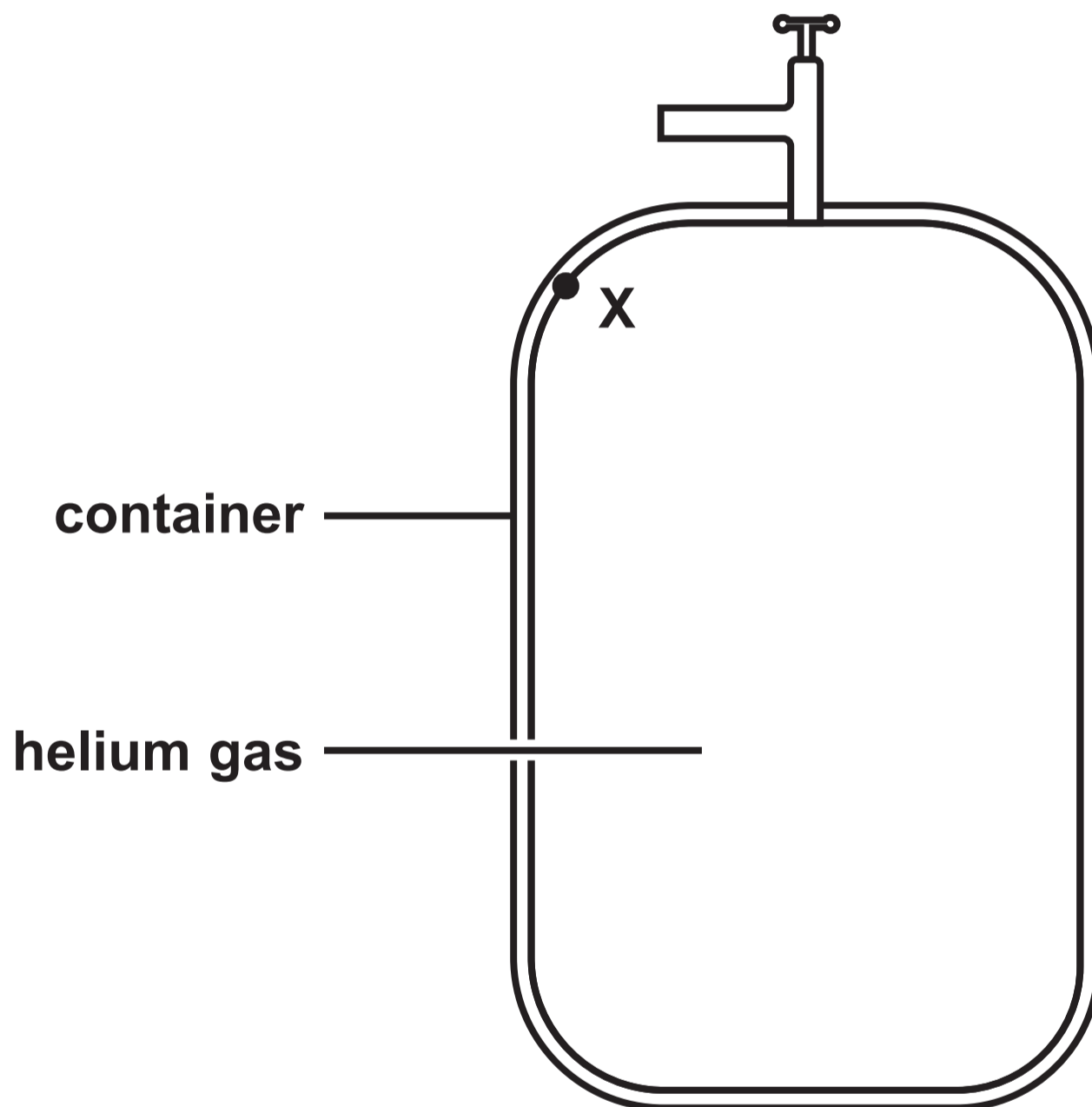
## Question 3(a)

FIGURE 6



## Question 3(a)

FIGURE 6



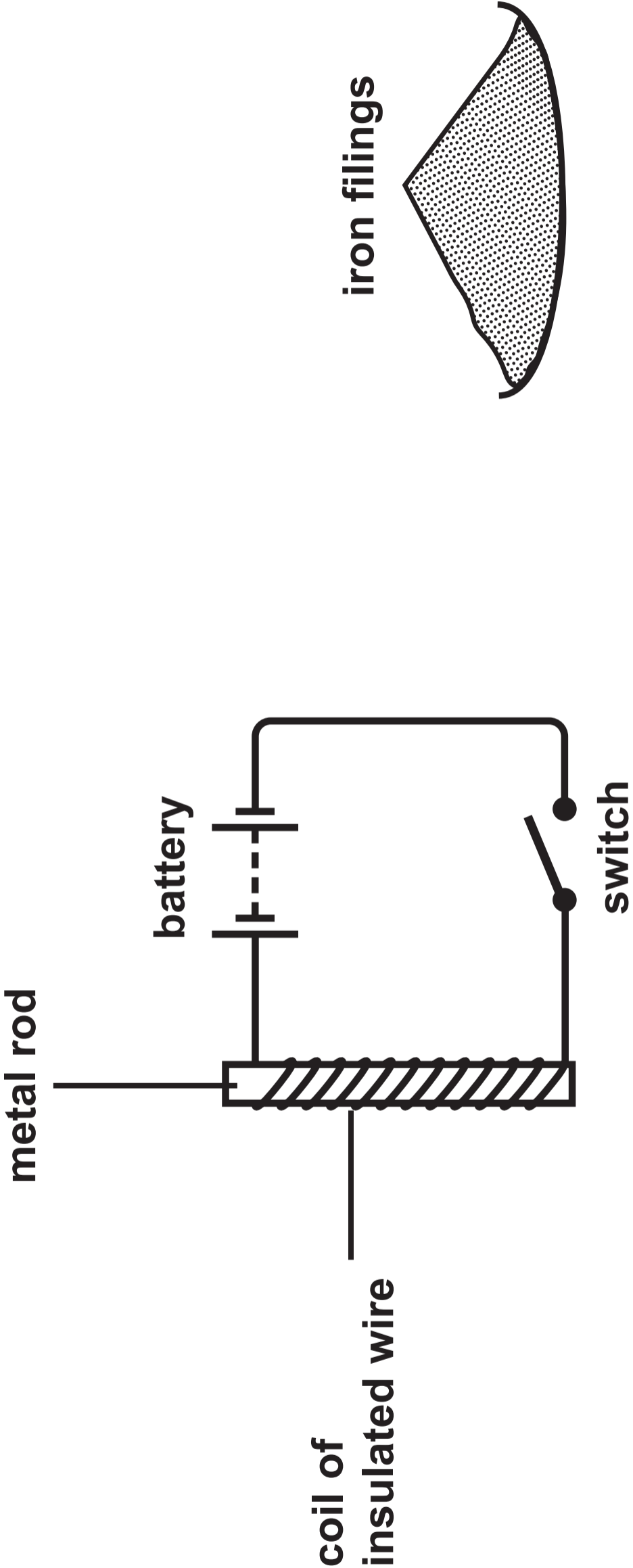
Question 3(c)

FIGURE 7

	pressure in kPa	volume in m <sup>3</sup>
before the gas is compressed	$P_1 = 105$	$V_1 = 2.3$
after the gas is compressed	$P_2 =$	$V_2 = 0.20$

Question 4(a)

FIGURE 9

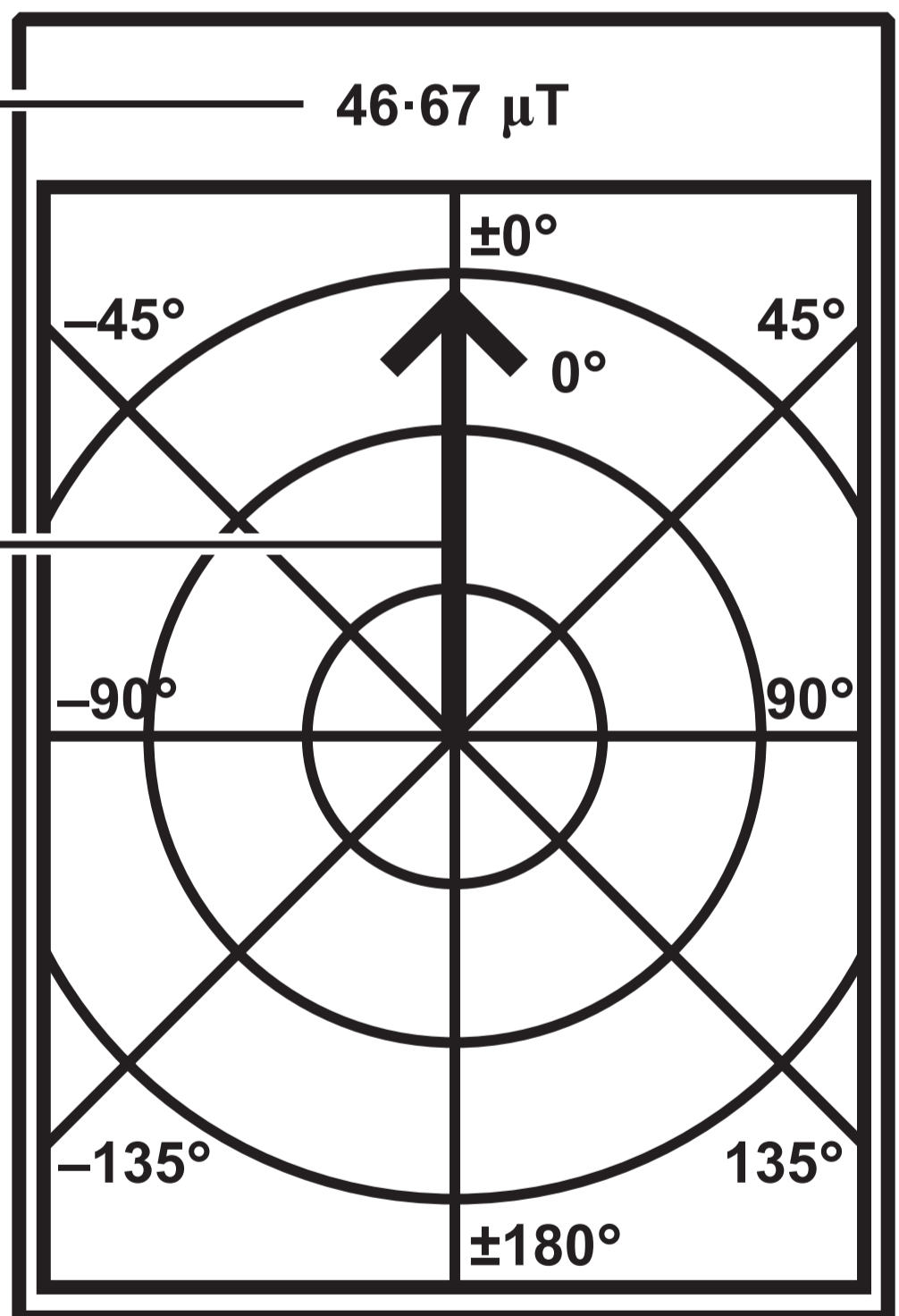


## Question 4(b)(i)

FIGURE 10

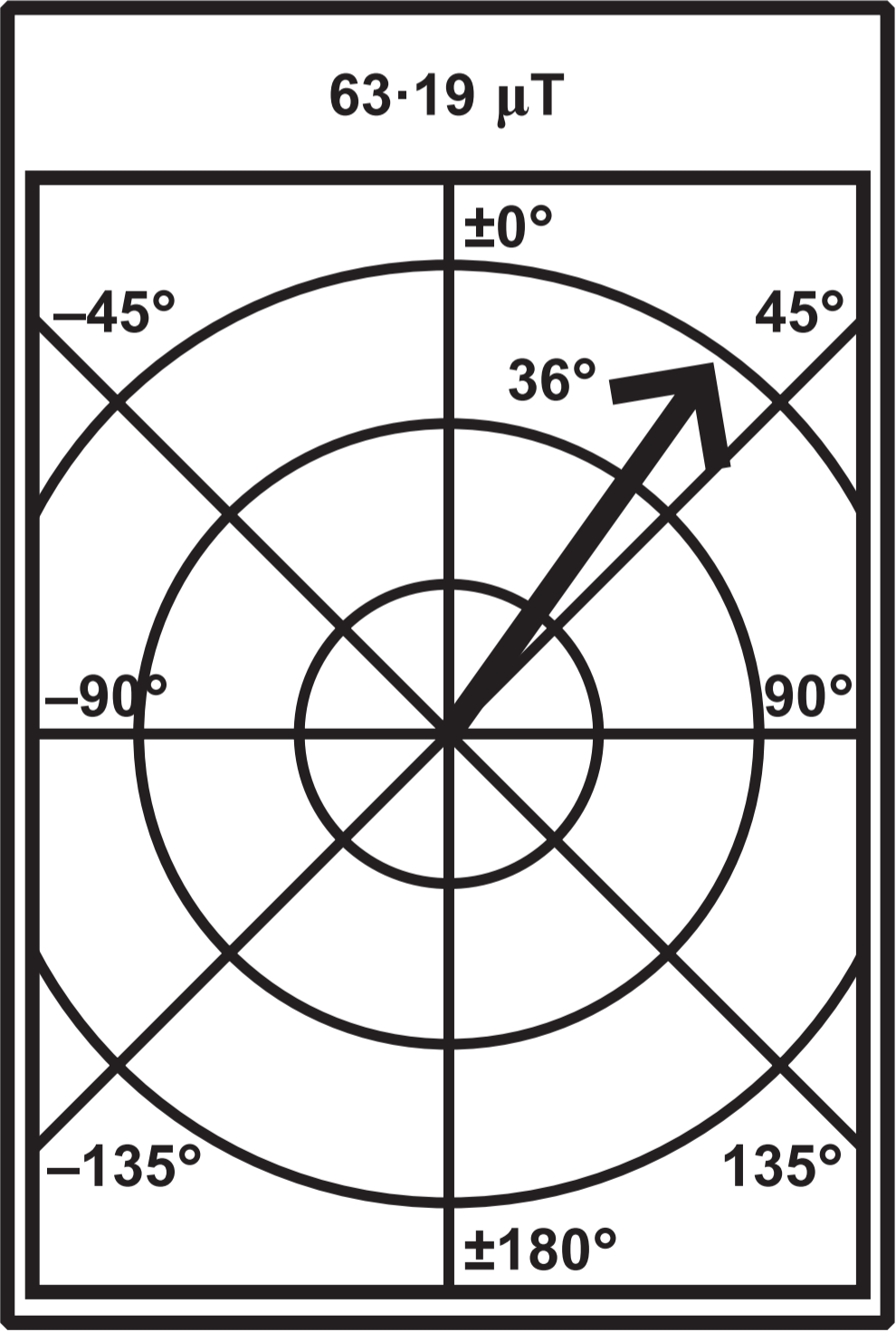
numbers show  
the strength of  
the magnetic field

pointer shows the  
direction of the  
magnetic field



Question 4(b)(ii)

FIGURE 11

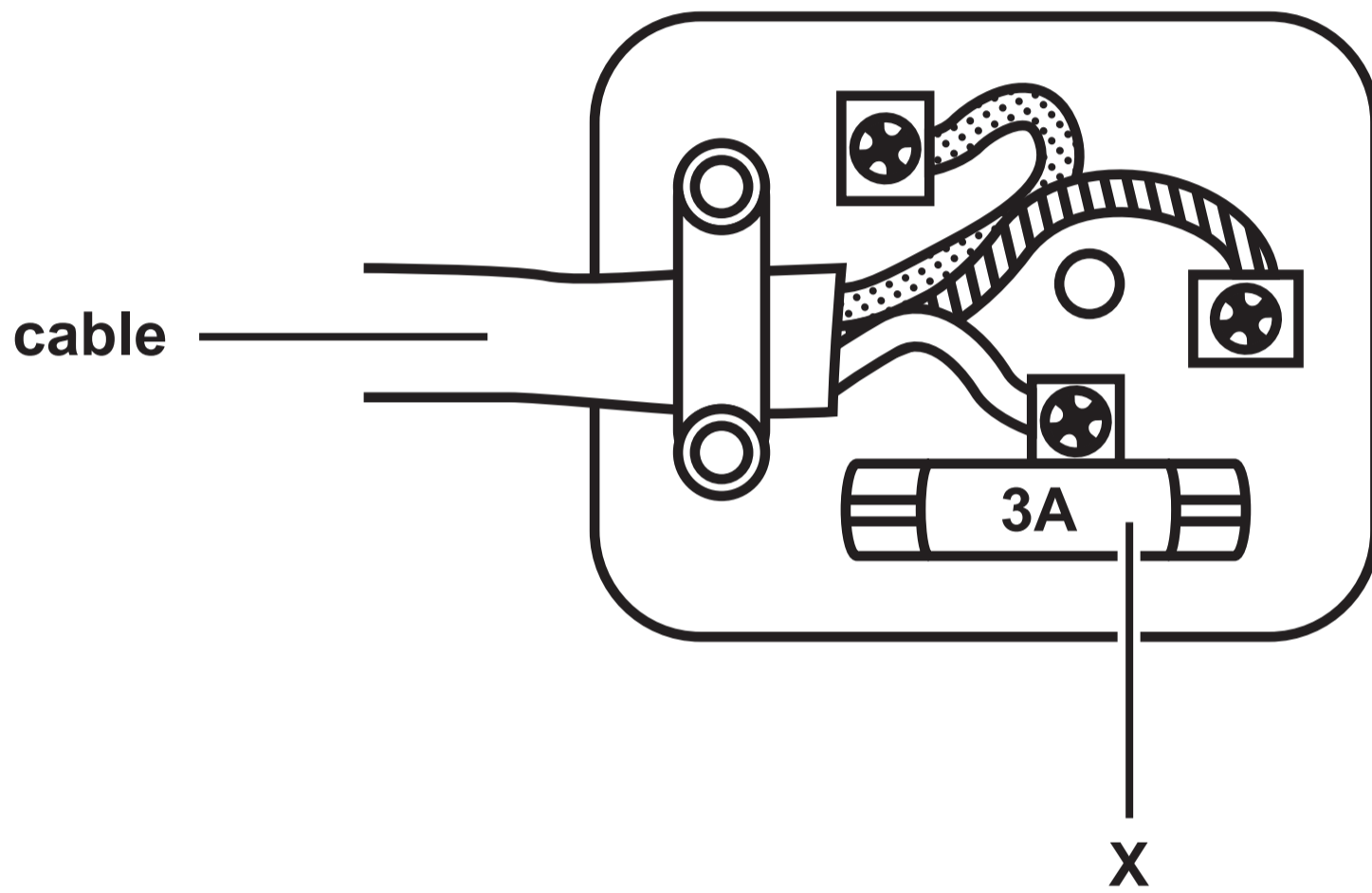


magnet



## Question 5(a)

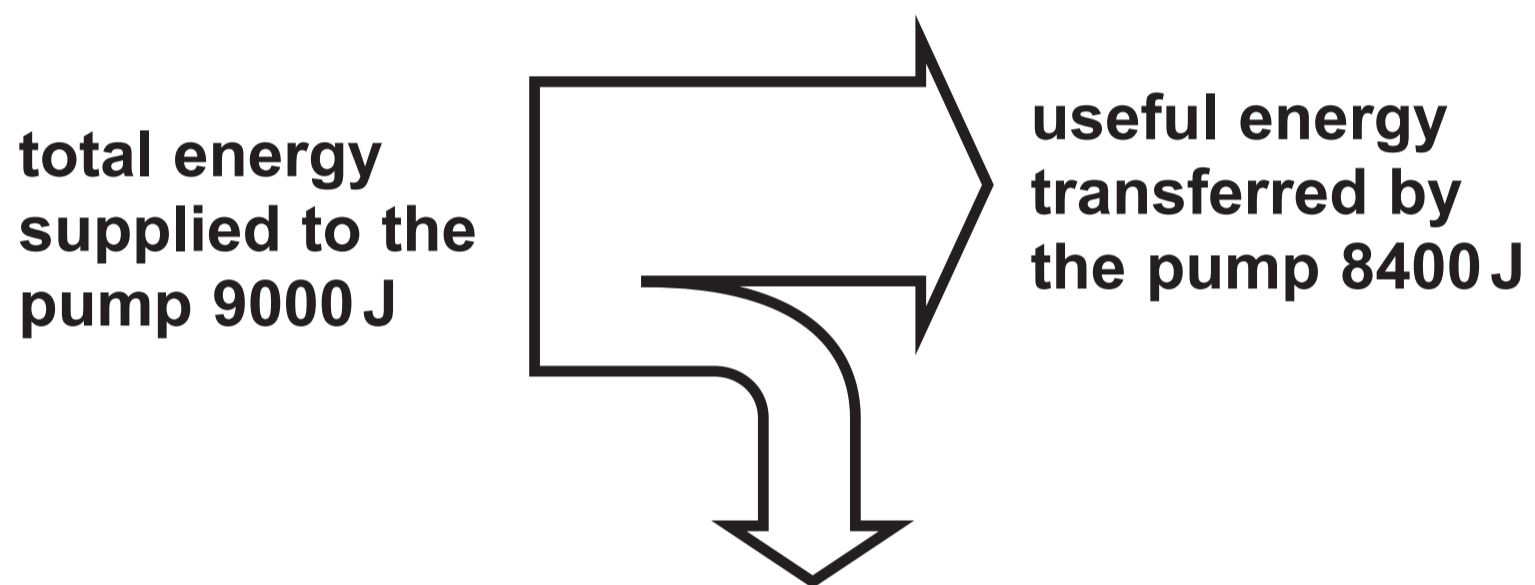
FIGURE 12



## Question 5(c)

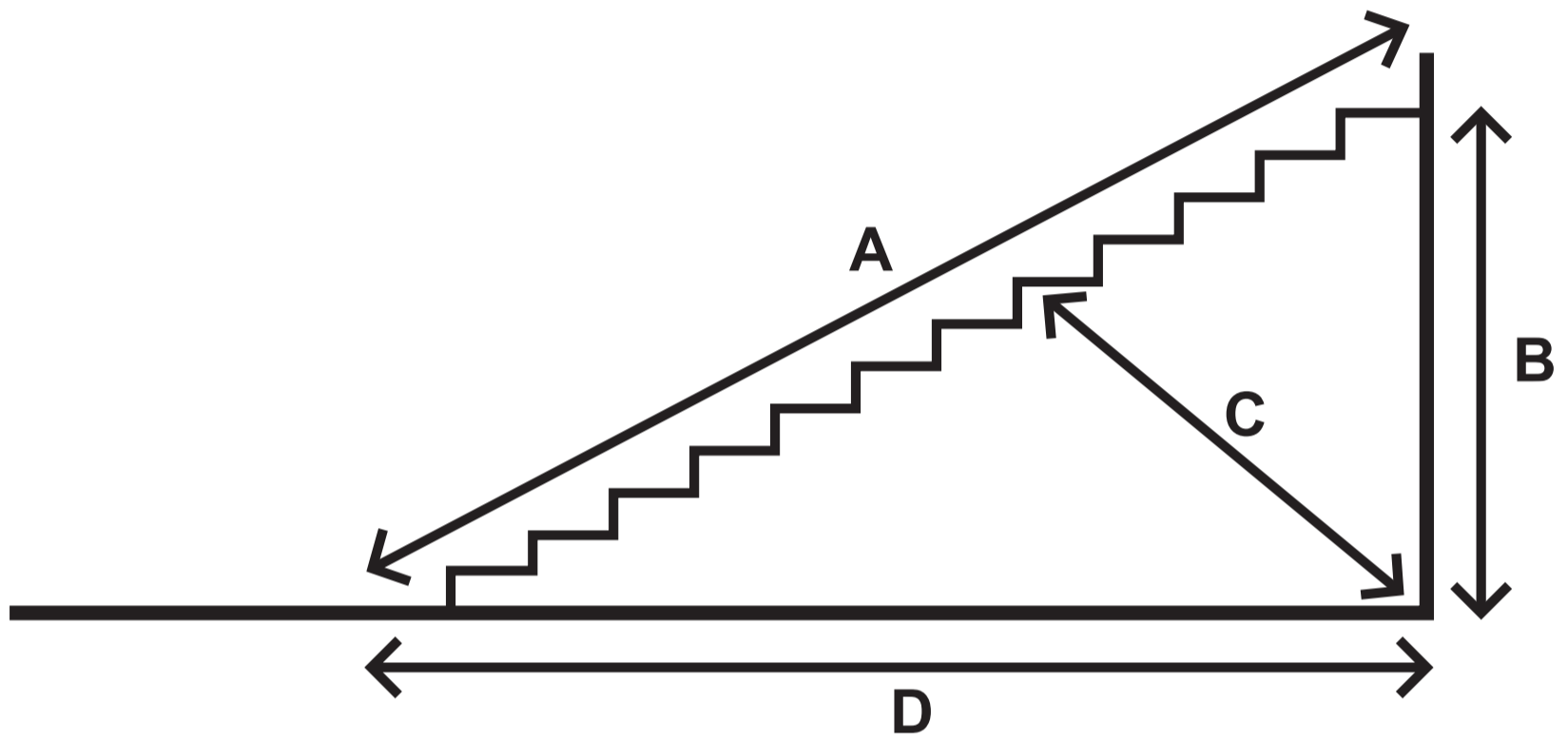
FIGURE 13

not to scale



## Question 6(a)

FIGURE 14

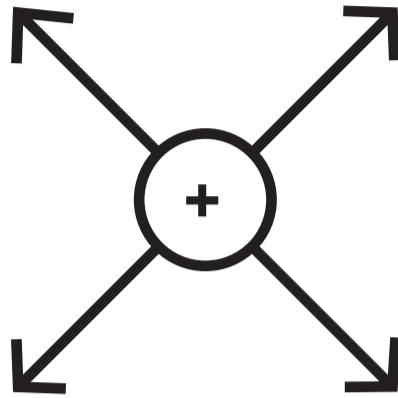


Question 6(b)

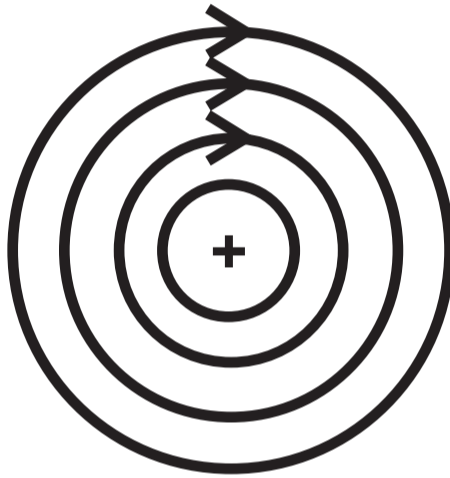
FIGURE 15

student	student estimate of weight in N	distance in m	work done	time taken in s	power in W
A	550	4·0	2200	5·0	440
B		4·0	1960	4·5	436
C	510	4·0	2040		425

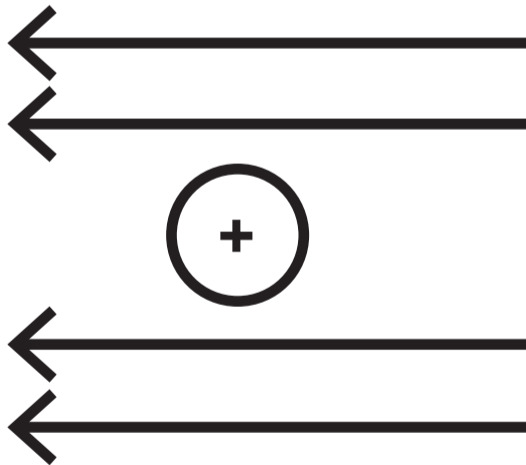
## Question 7(a)



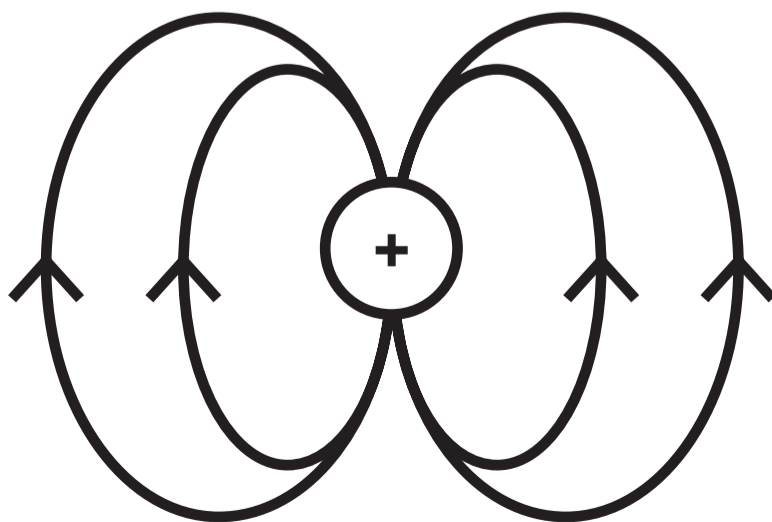
A



B



C

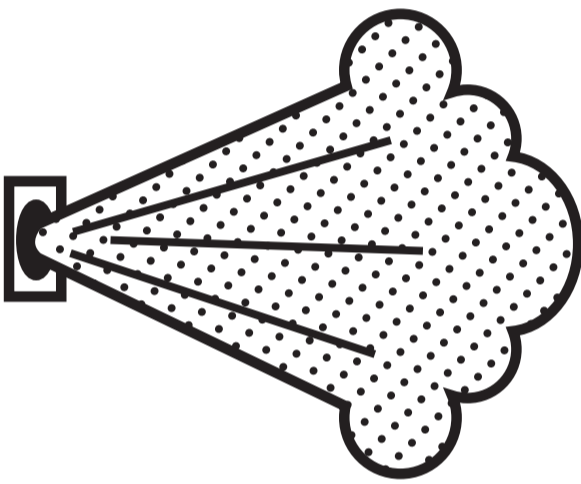


D

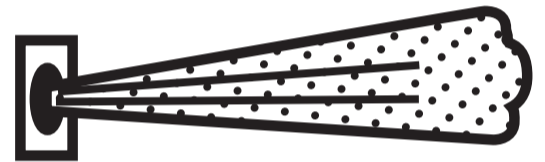
## Question 7(c)(ii)

FIGURE 16

cloud from  
sprayer 1

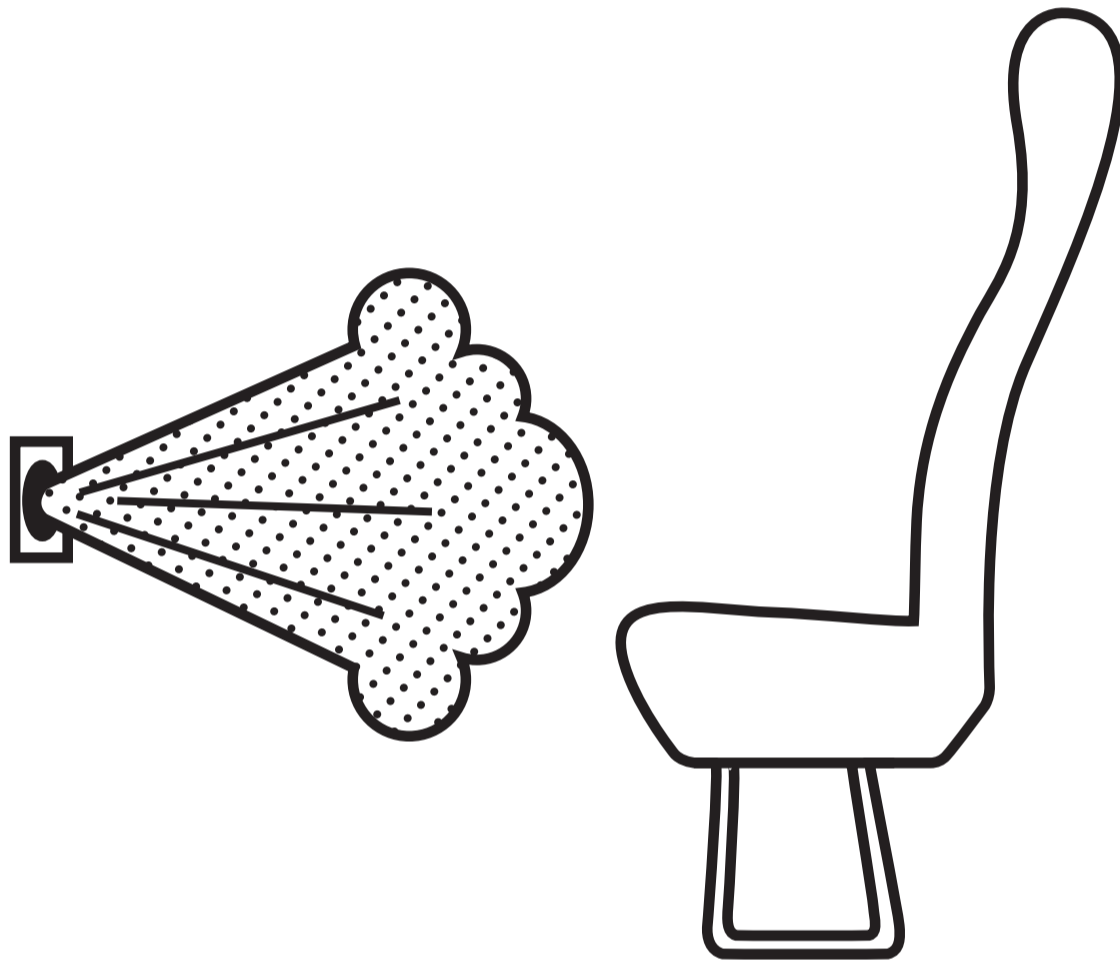


cloud from  
sprayer 2



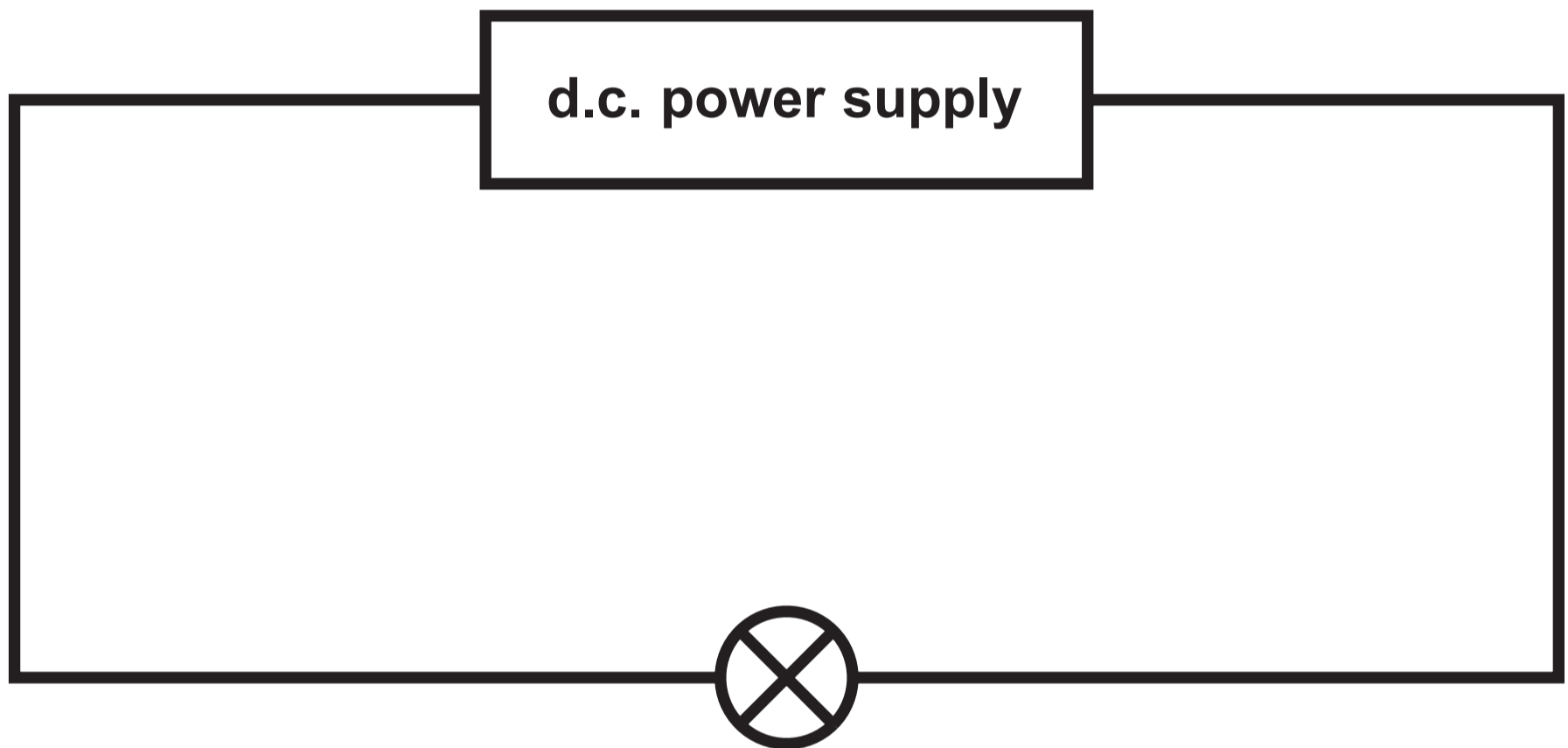
## Question 7(c)(iii)

FIGURE 17



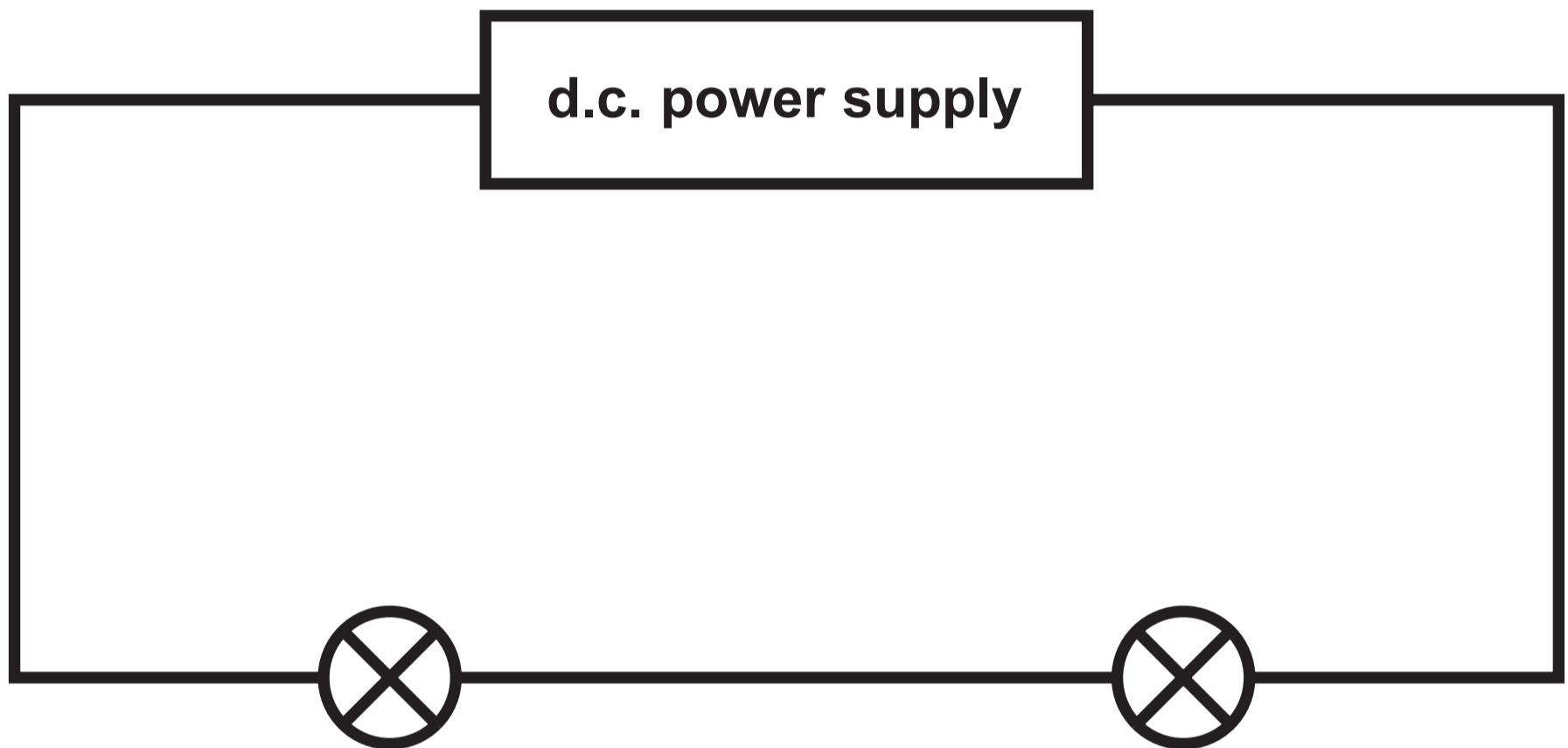
## Question 8(a)

FIGURE 19



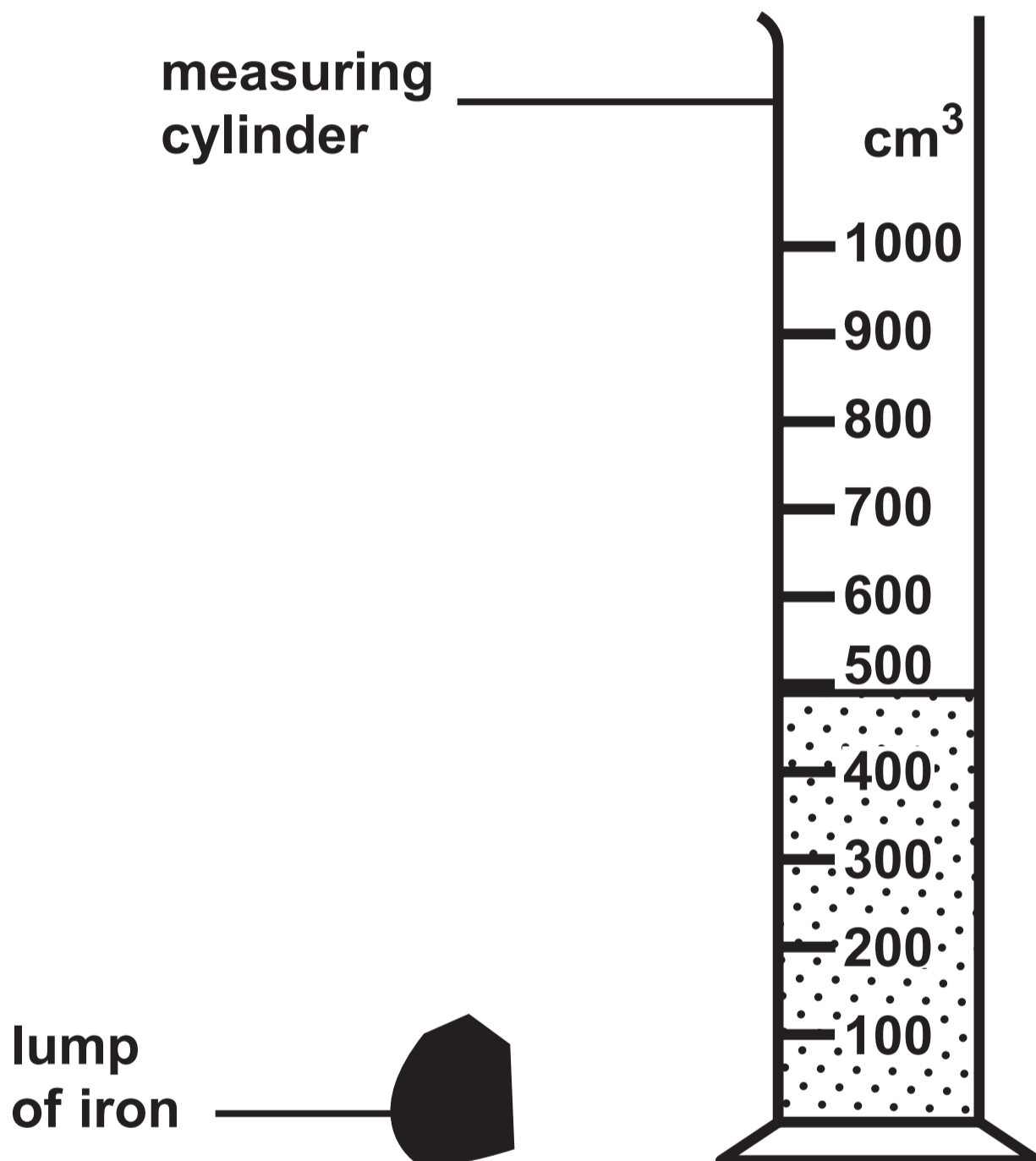
## Question 8(b)

FIGURE 20



## Question 9(b)

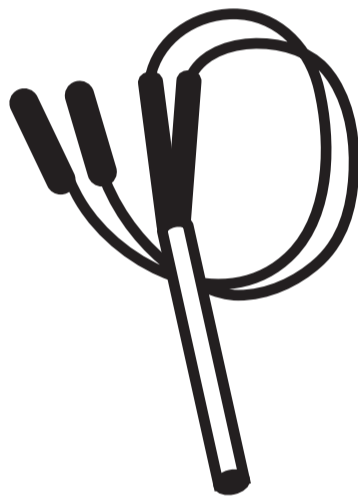
FIGURE 21



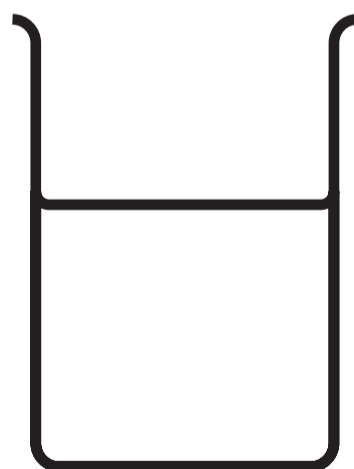
Question 9(d)

**FIGURE 22**

**low voltage heater**



**beaker of water**



## Question 10(a)(ii)

FIGURE 24

Both diagrams are drawn to the same scale.

donkey hoof

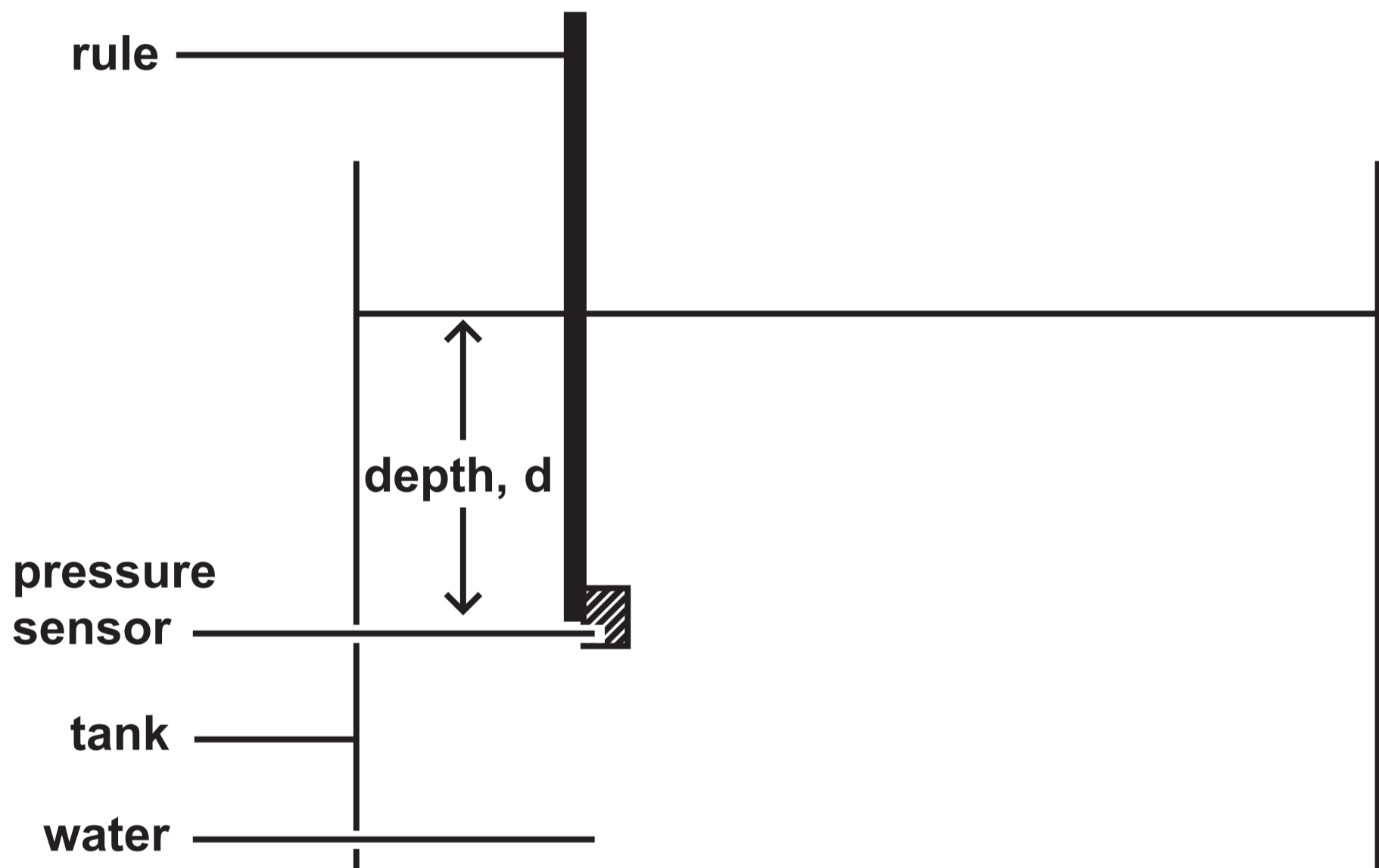


camel hoof



## Question 10(b)

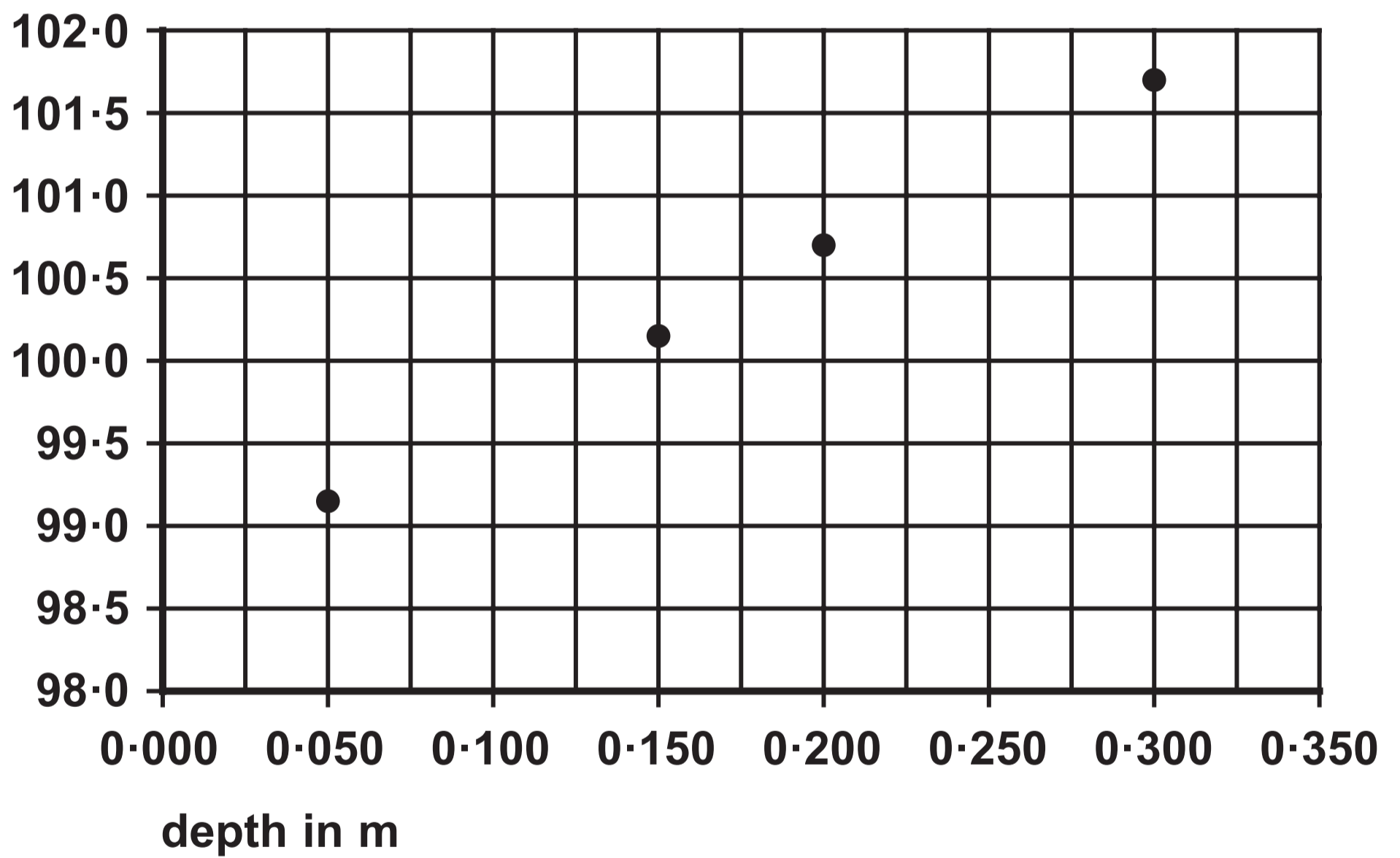
FIGURE 25



## Question 10(b)

FIGURE 27

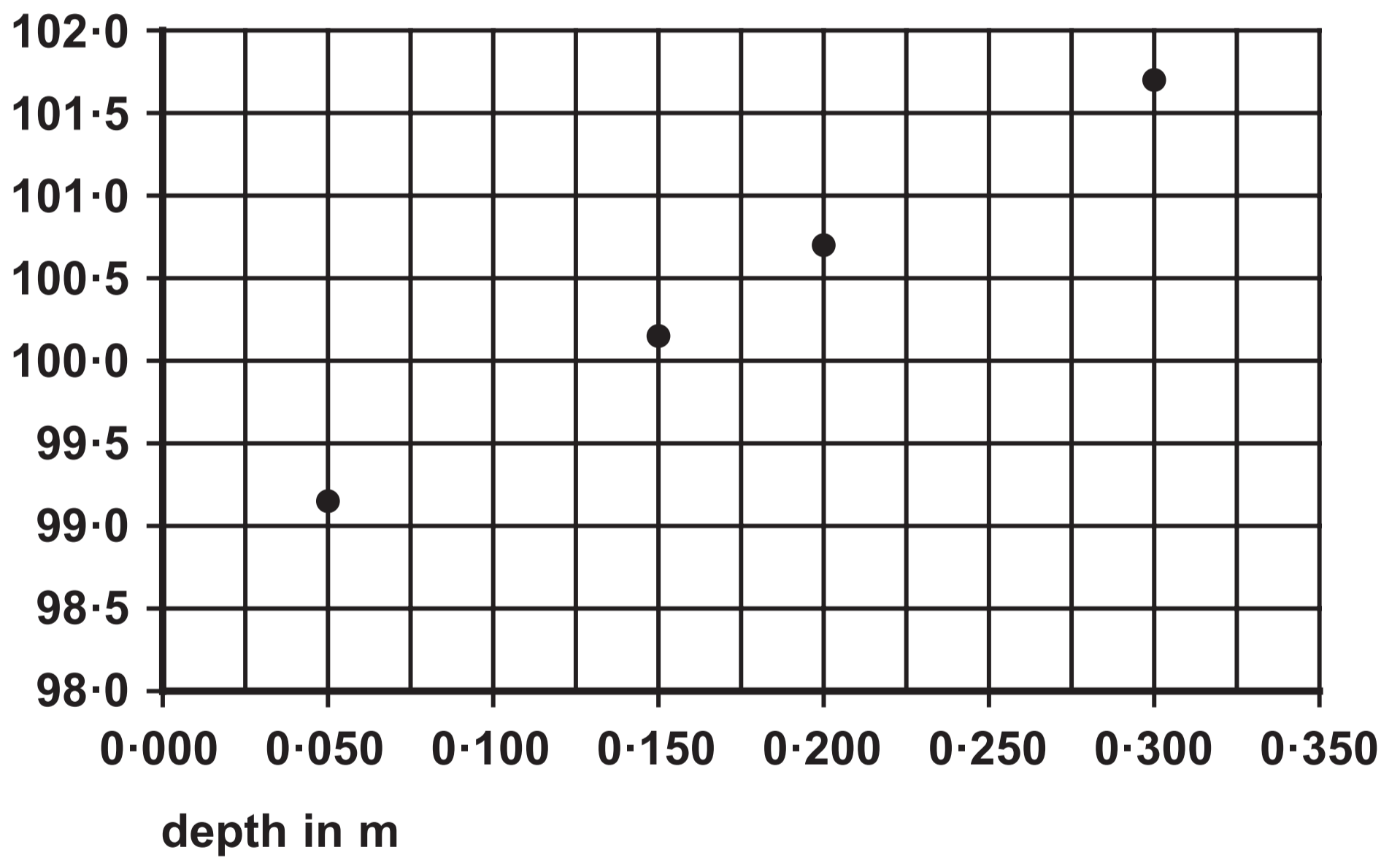
pressure  
in kPa



## Question 10(b)

FIGURE 27

pressure  
in kPa



**Question 4(b)(i)**

**(Source: adapted from MGS Lite app for iPhone)**

**Question 4(b)(ii)**

**(Source: adapted from MGS Lite app for iPhone)**