

Physics
PAPER 1
Foundation Tier

Wednesday 22 May 2024 – Morning

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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Question 1(a)

amplitude

frequency

longitudinal

speed

transverse

wavelength

Question 1(b)

FIGURE 1

radio waves	microwaves	infrared	visible light	ultraviolet	x-rays	gamma rays
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FIGURE 2

Information	Type of electromagnetic radiation
emitted by bright objects AND can be detected by the human eye	
emitted by radioactive nuclei AND can be used to treat cancer	
produced in an aerial AND can be used for communication	
can cause skin cancer in humans AND can be used to detect forged banknotes	

Question 2(a)

FIGURE 3

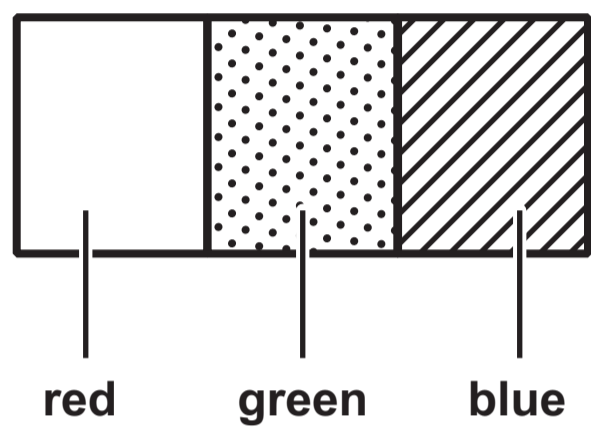
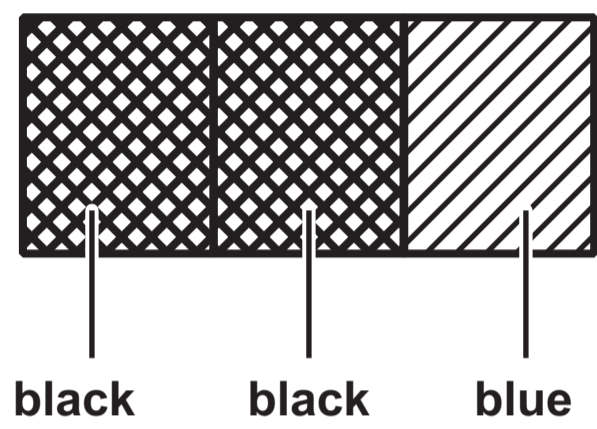
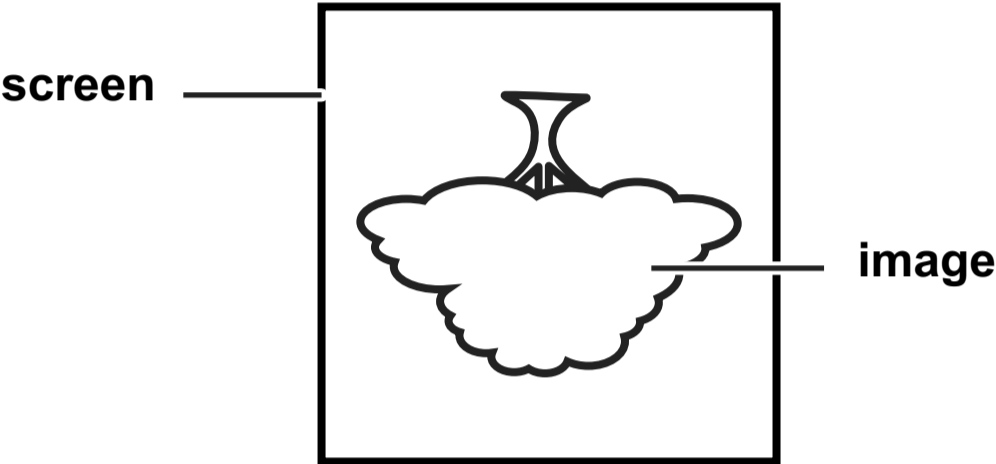


FIGURE 4



Question 2(b)

FIGURE 5



student's descriptions of the image		correction
upside down	YES	
bigger than the actual tree	NO	
virtual	NO	

Question 2(c)

FIGURE 6

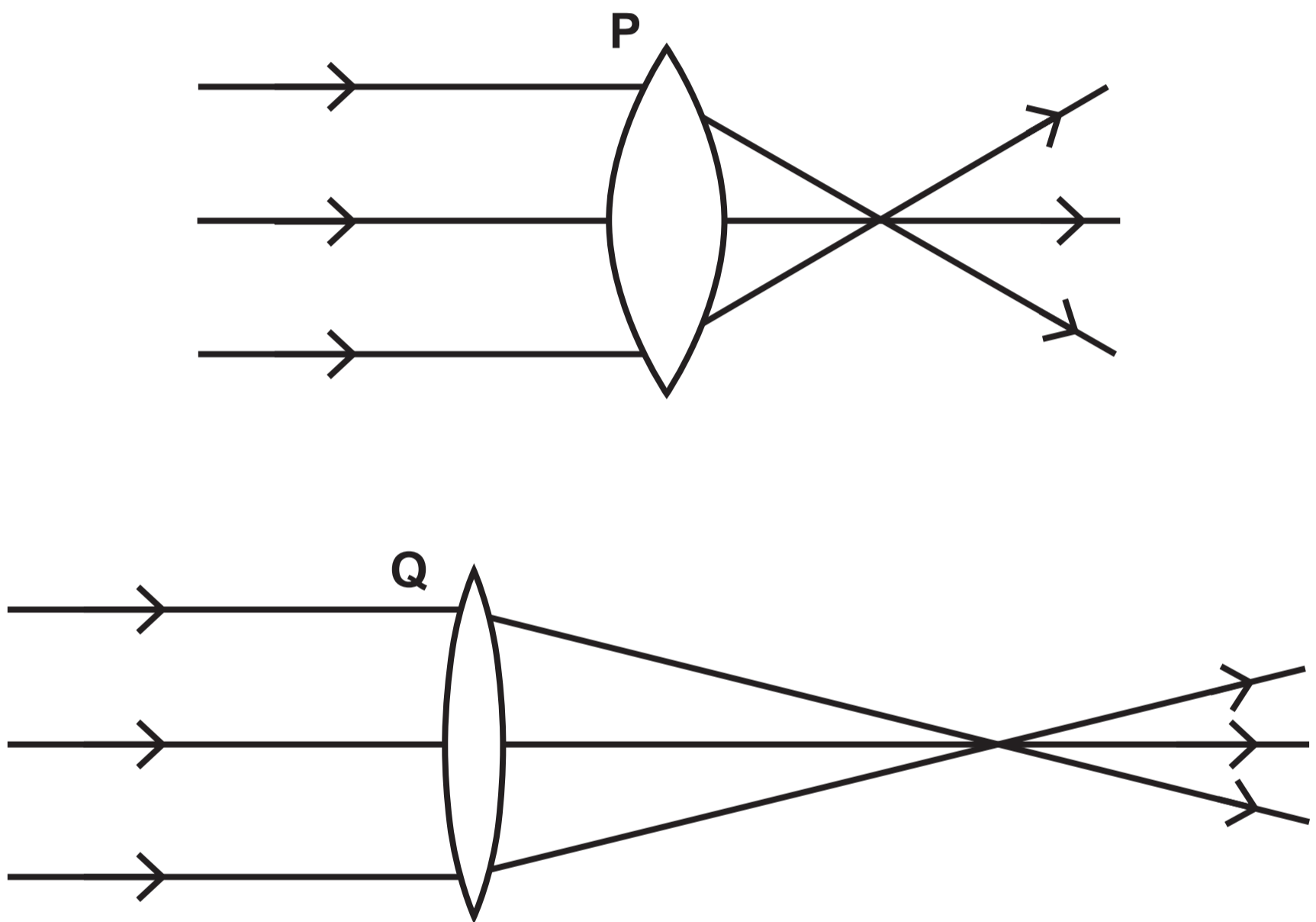
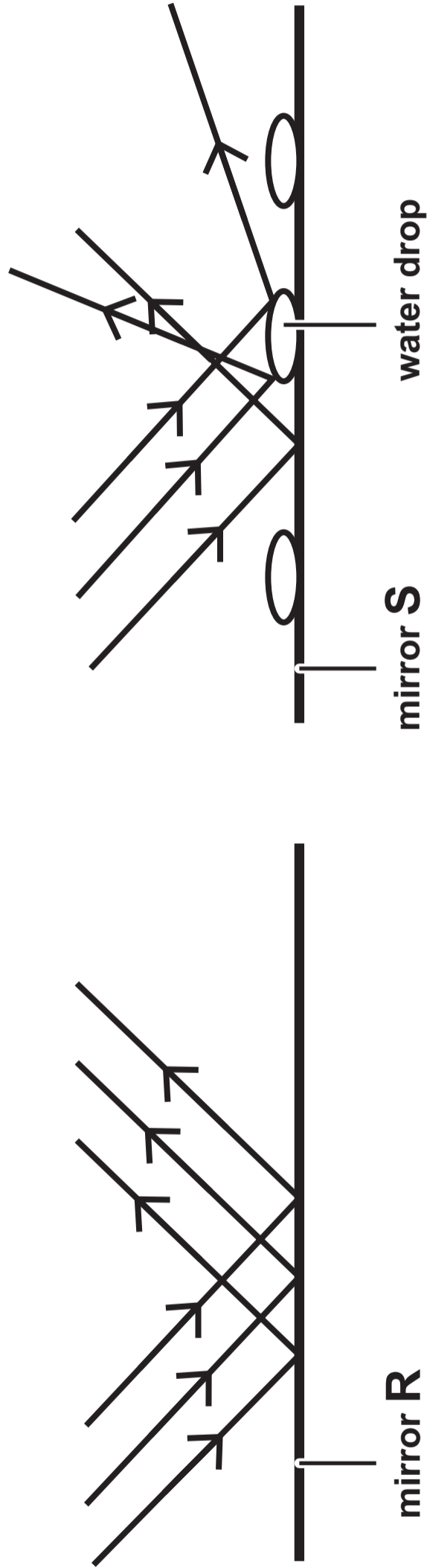
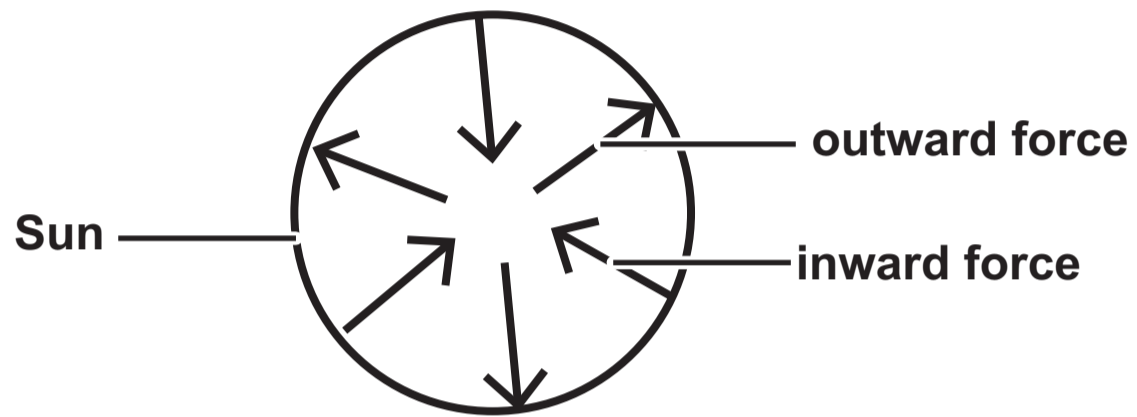


FIGURE 7



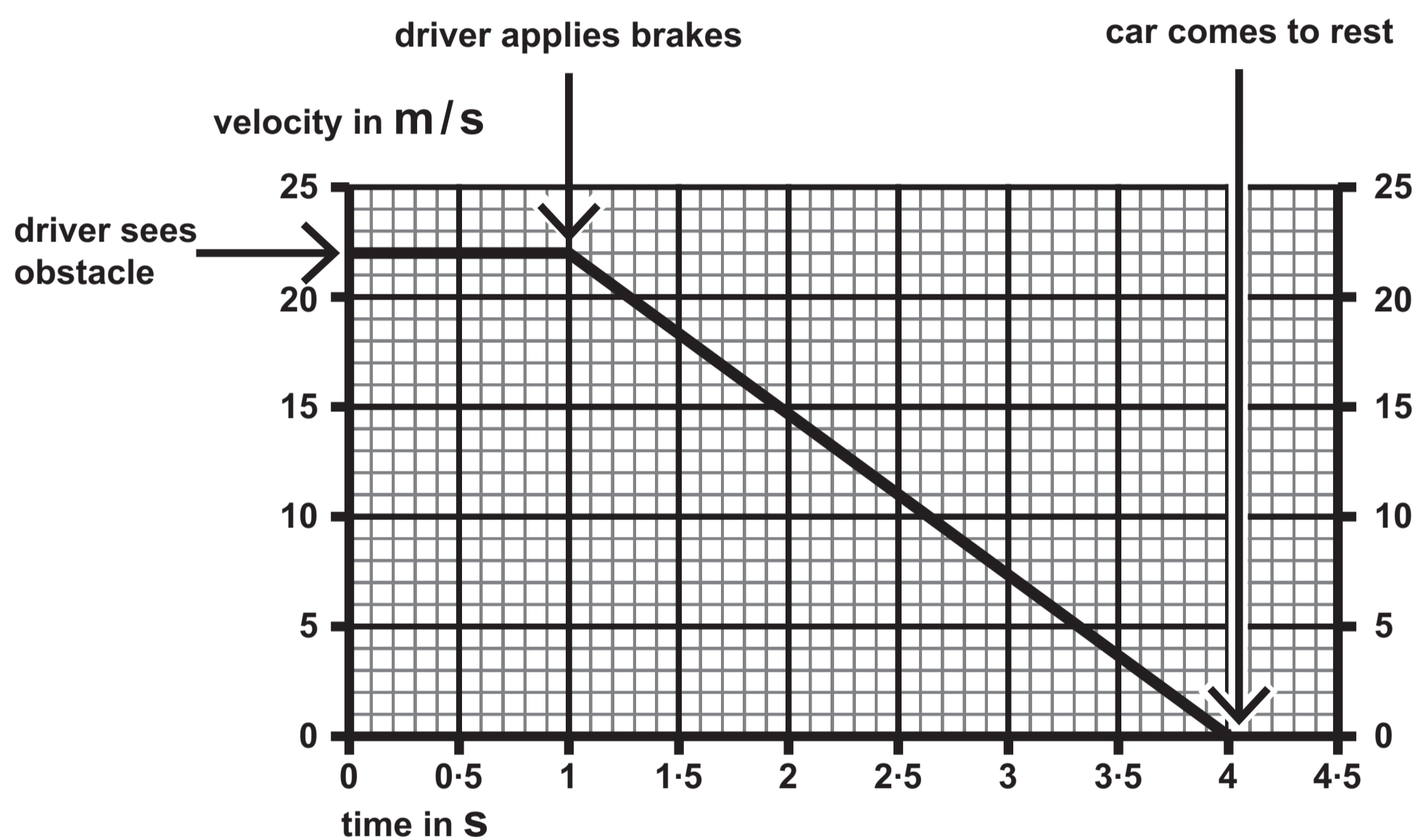
Question 3

FIGURE 8



Question 4(a)

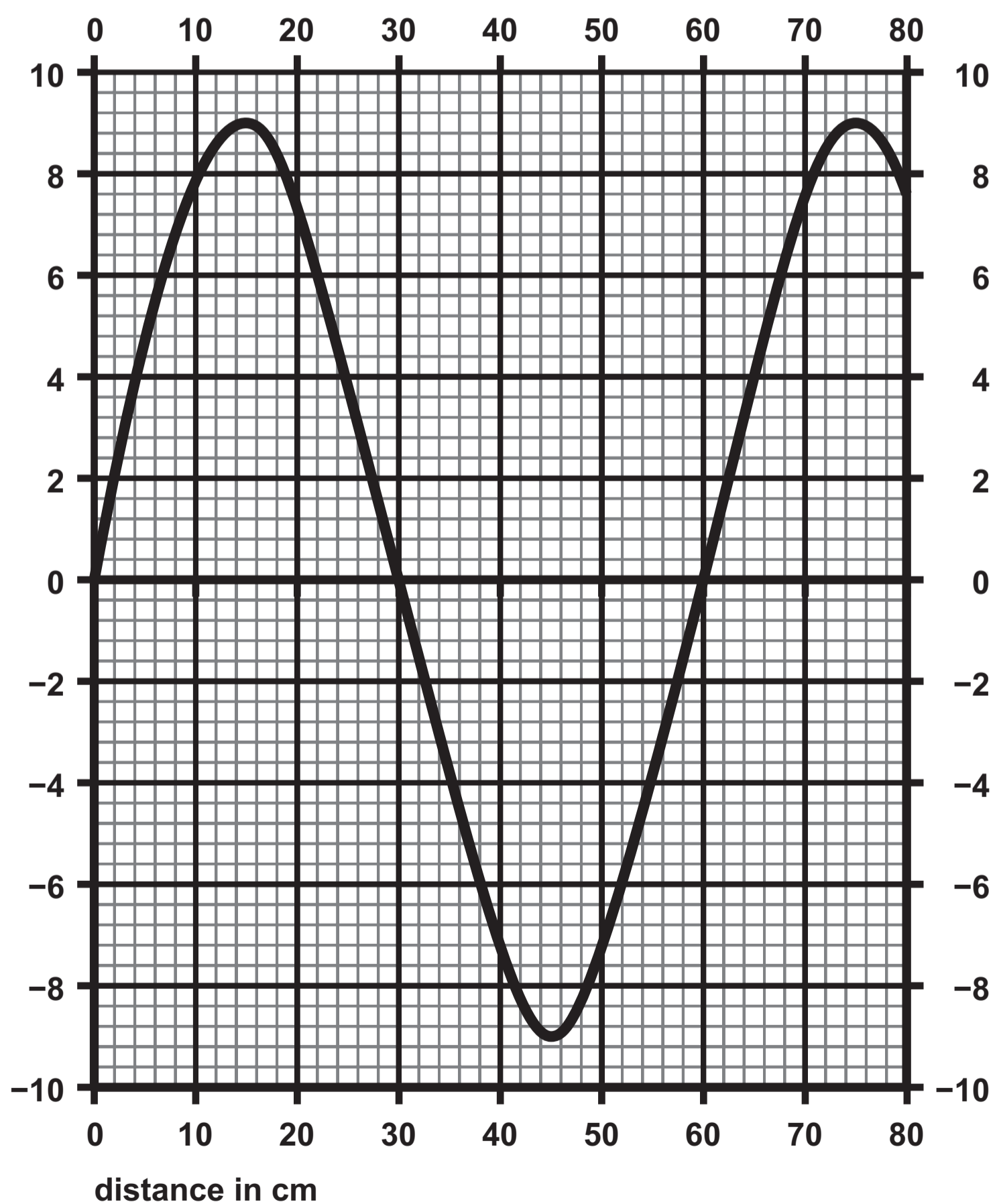
FIGURE 9



Question 5(d)

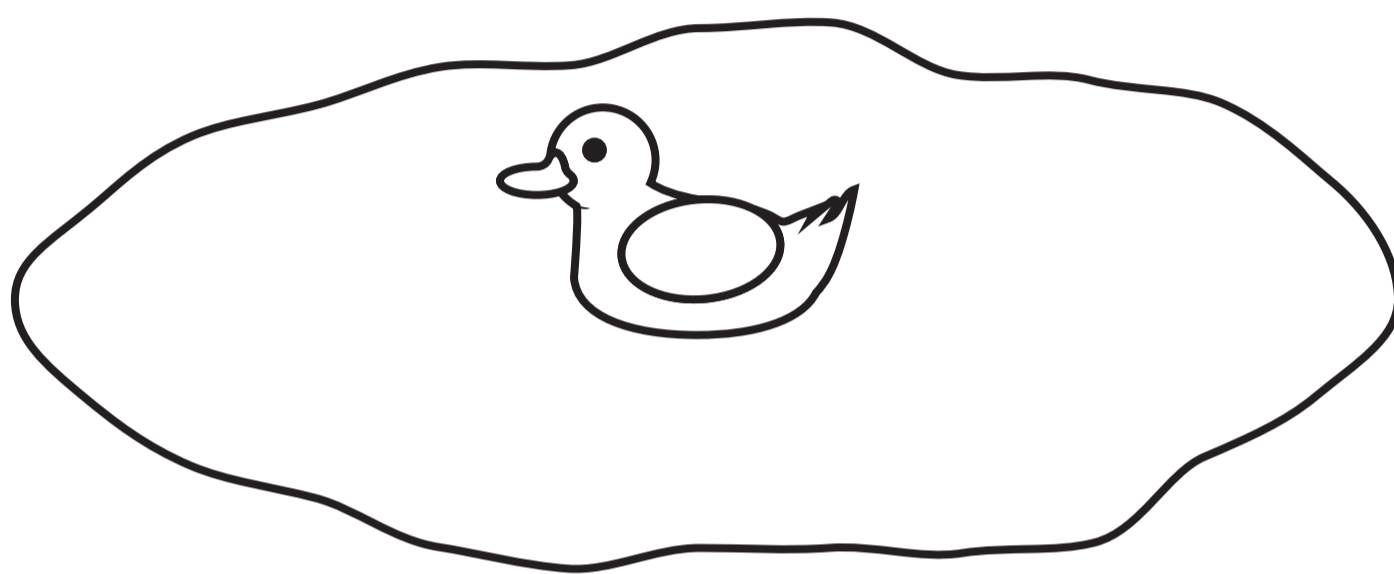
FIGURE 10

vertical displacement
of water in cm



Question 5(e)(ii)

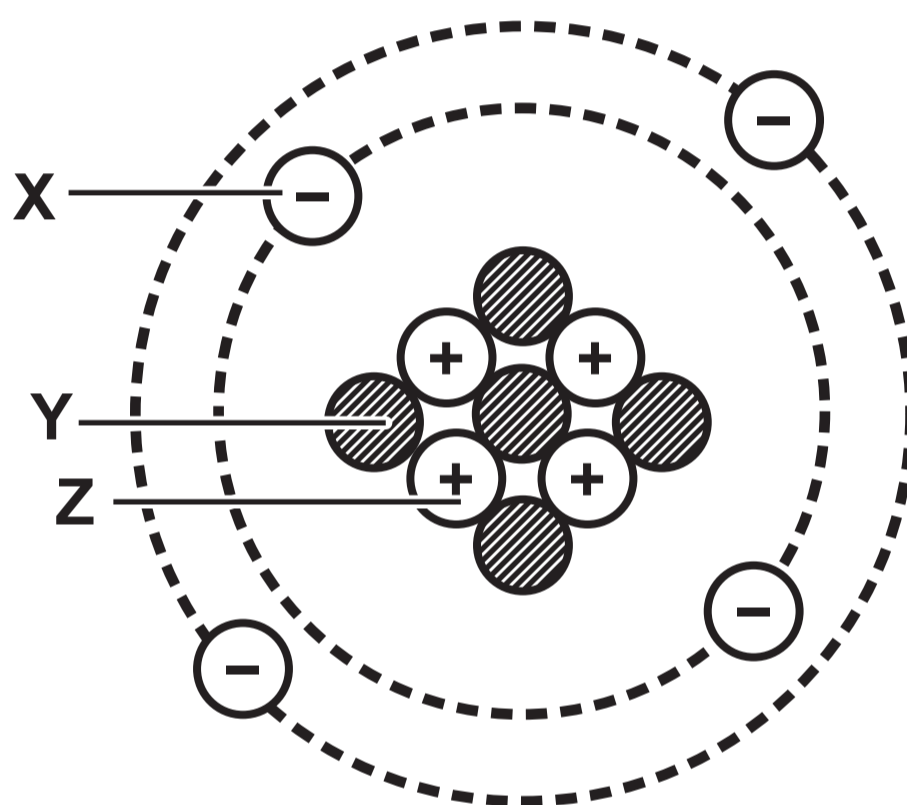
FIGURE 11



Question 6

FIGURE 12

NOT TO SCALE



Question 6(c)(ii)

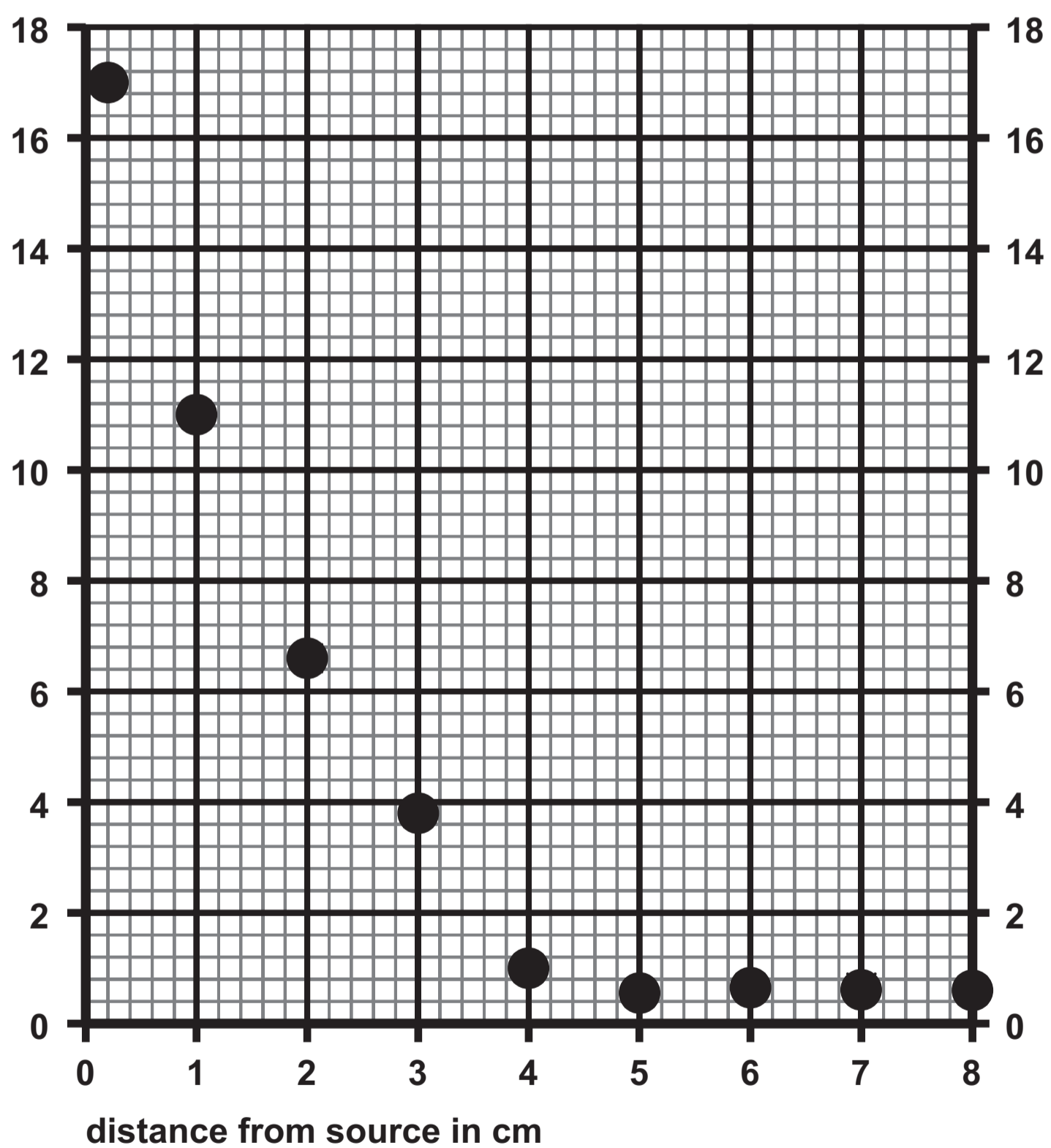
FIGURE 13

	1st measurement	2nd measurement	3rd measurement	4th measurement
activity in Bq	21	23	19	22

Question 6(d)

FIGURE 14

mean detector reading
in counts per second



Question 7(a)(i)

diagram A

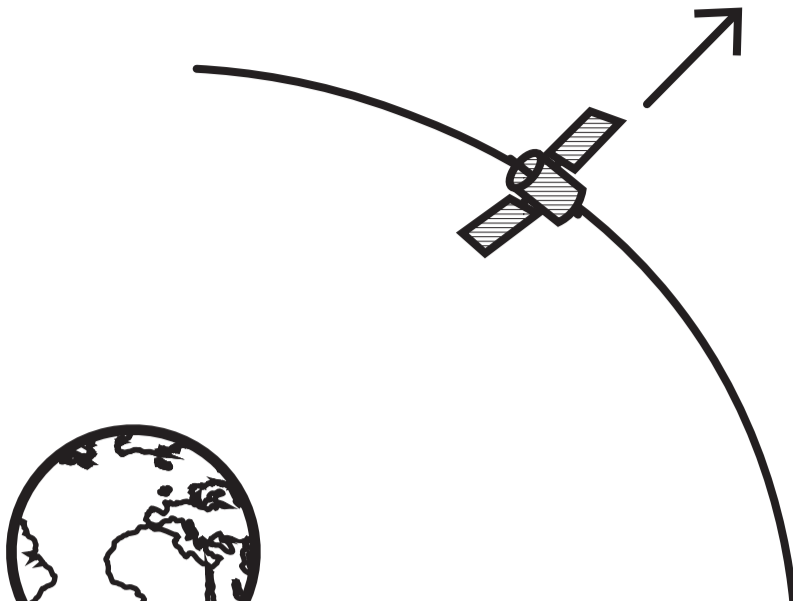


diagram B

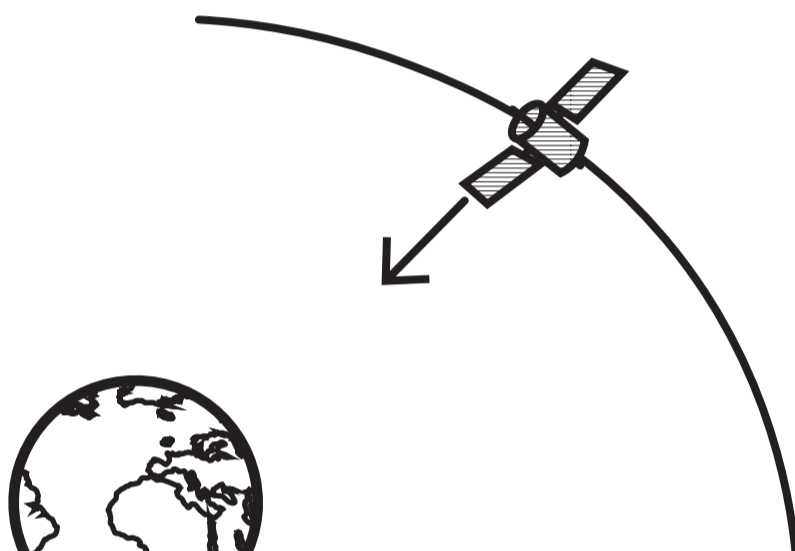


diagram C

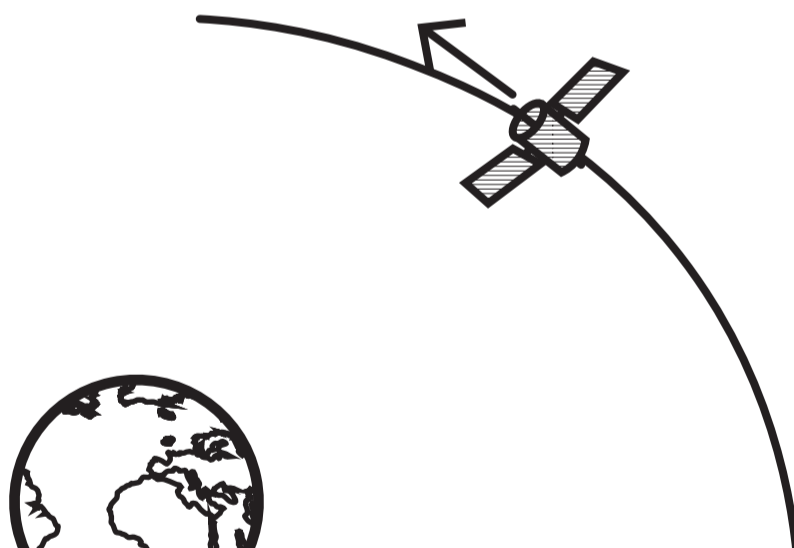
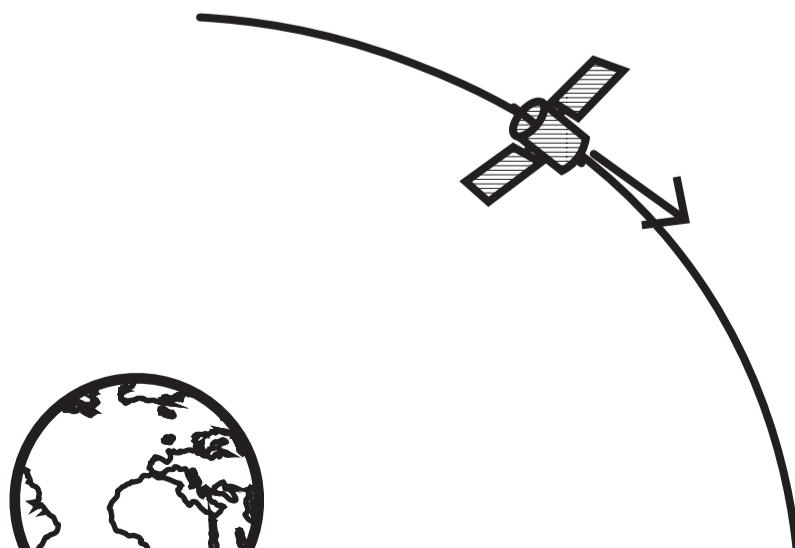


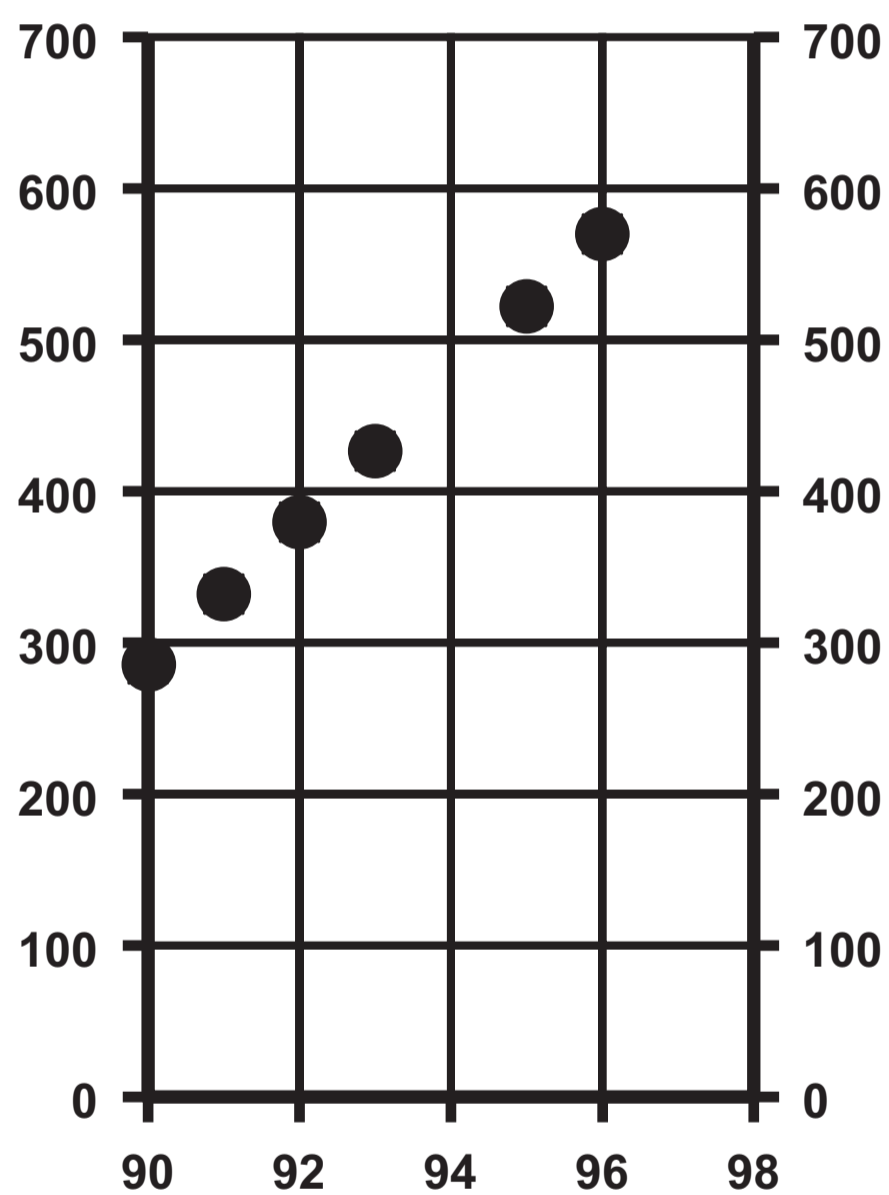
diagram D



Question 7(c)

FIGURE 16

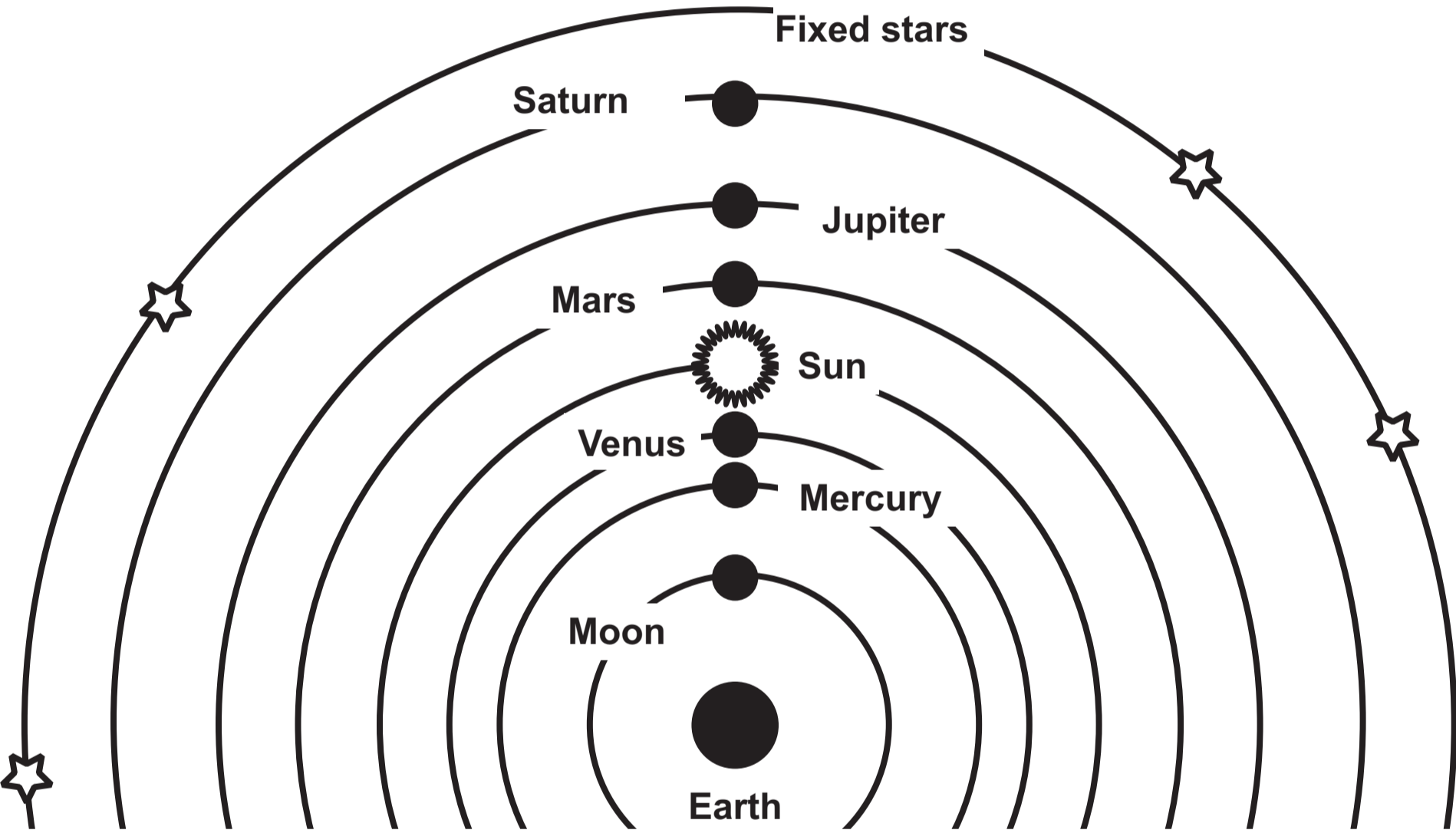
height above the
Earth's surface in km



time to complete one orbit
in minutes

Question 7(d)

FIGURE 17



Question 8

FIGURE 18

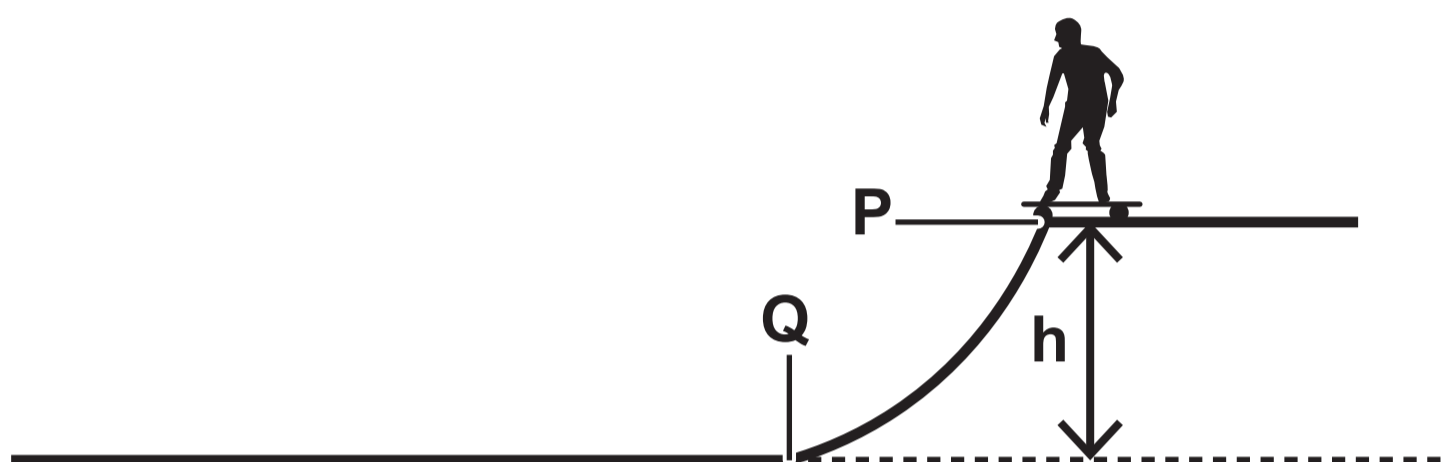
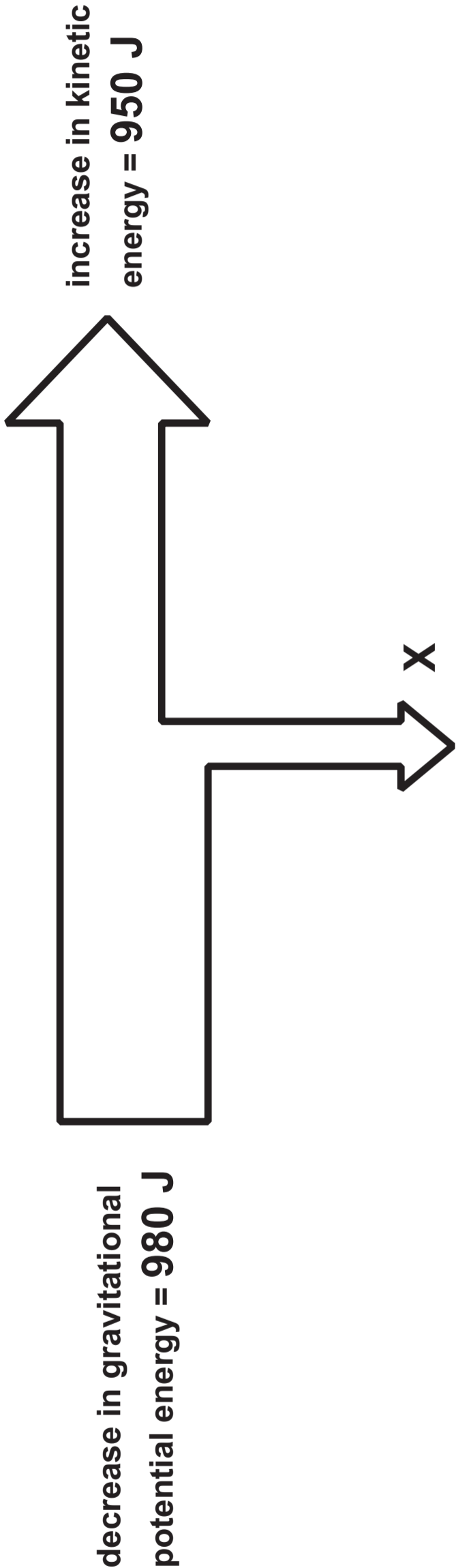


FIGURE 19

NOT TO SCALE



Question 9

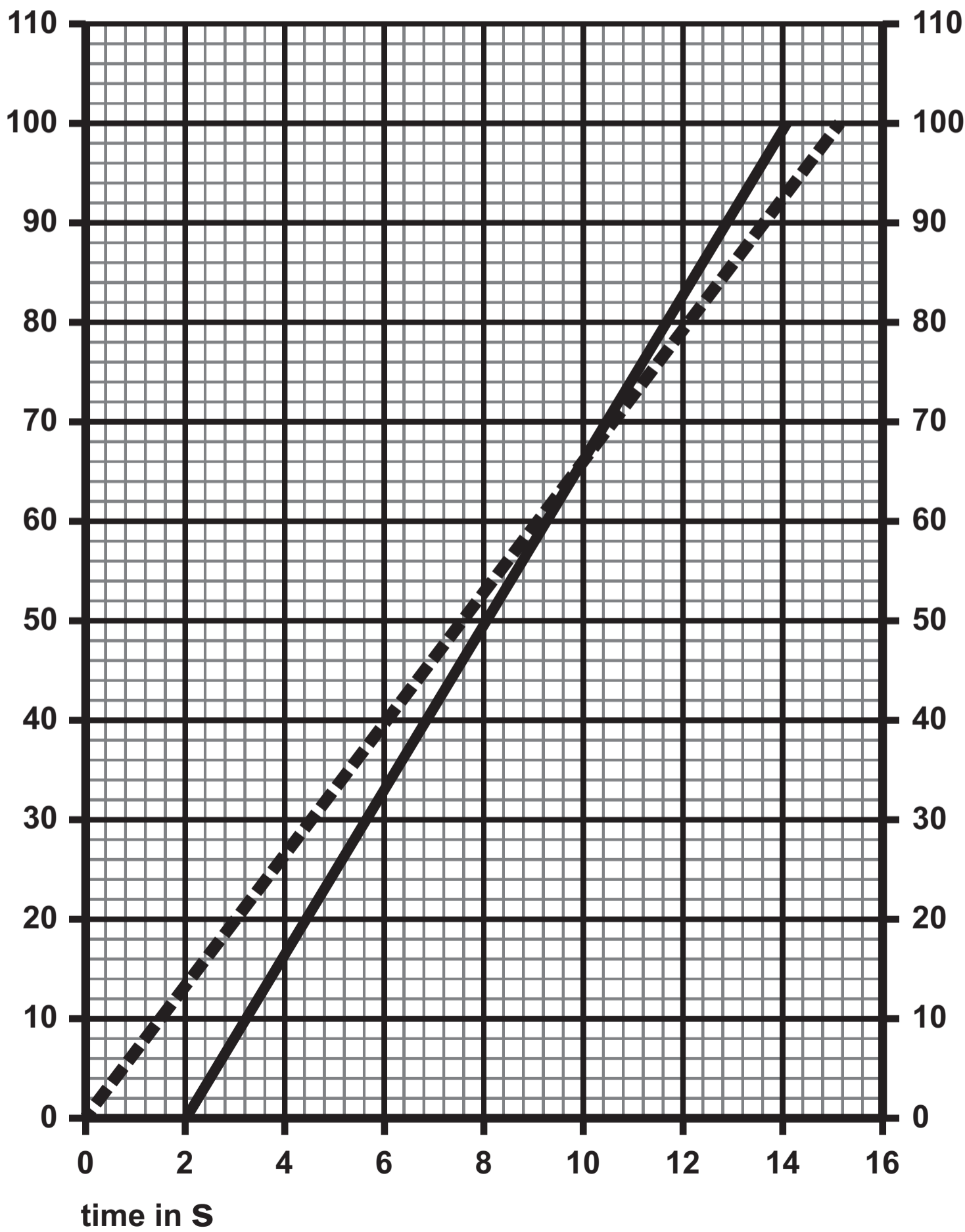
FIGURE 20

KEY

———— M

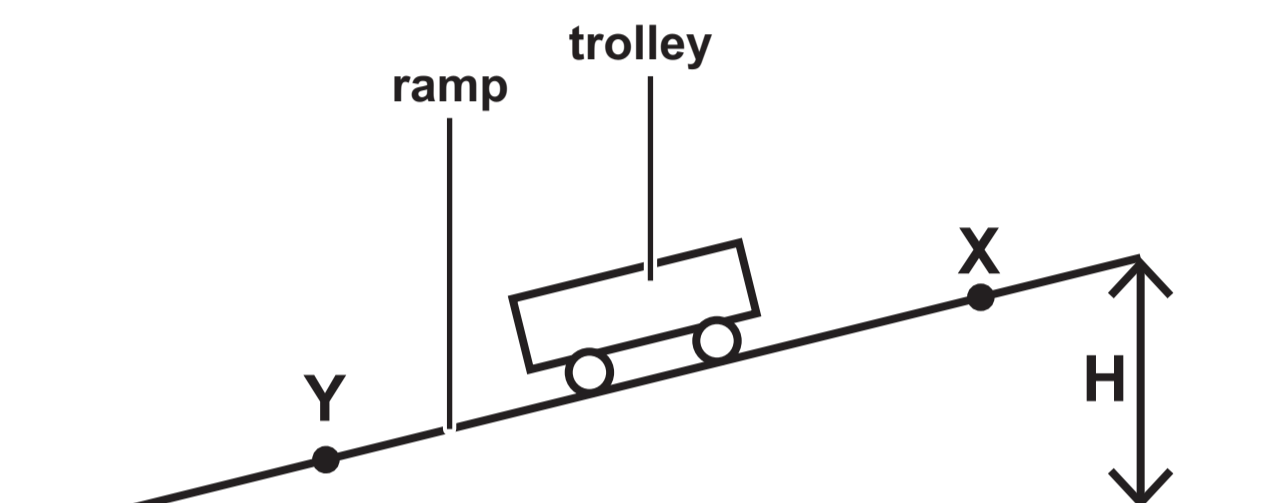
----- L

distance in m



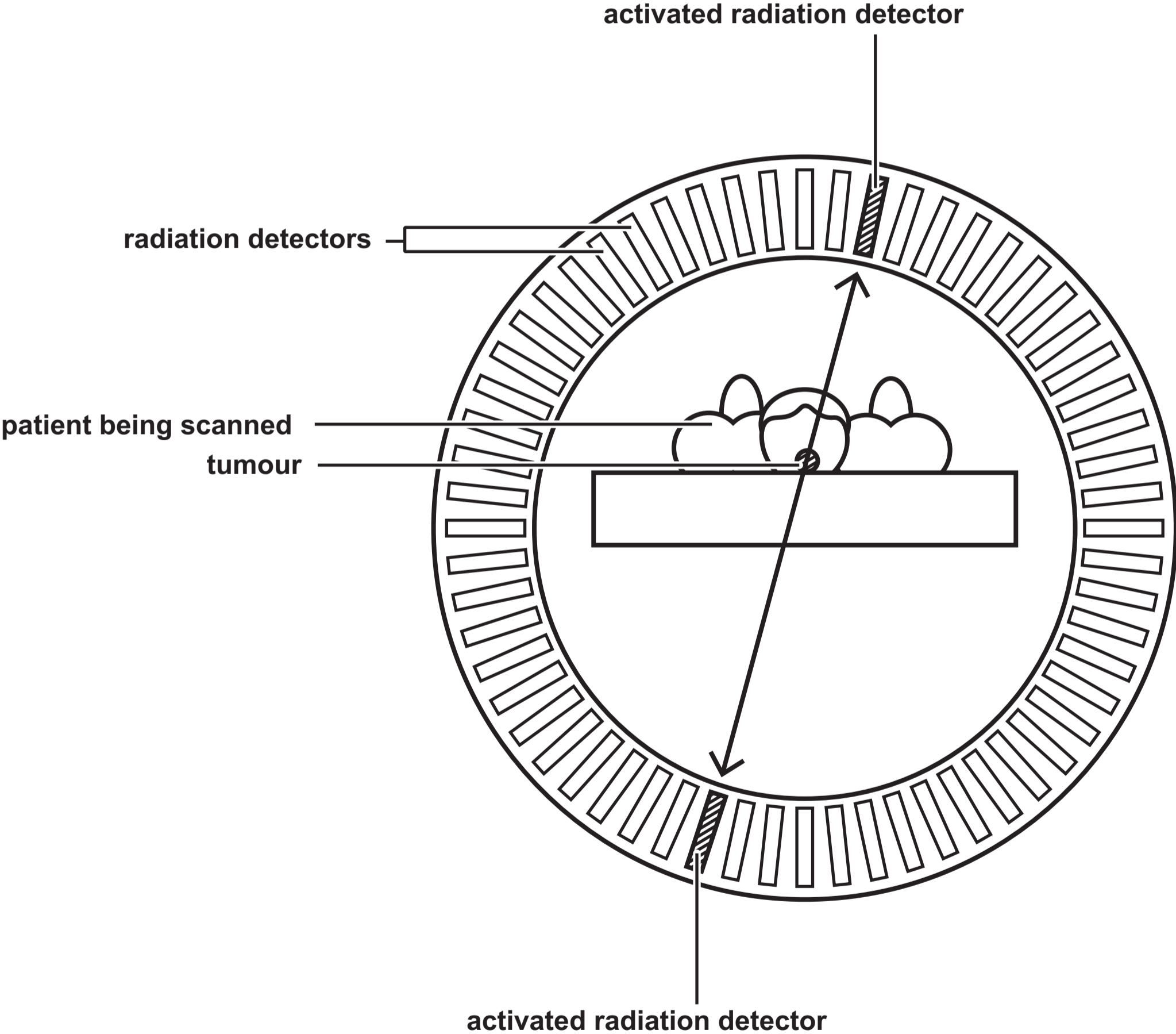
Question 9(c)

FIGURE 21



Question 10(b)

FIGURE 22



Question 10(d)

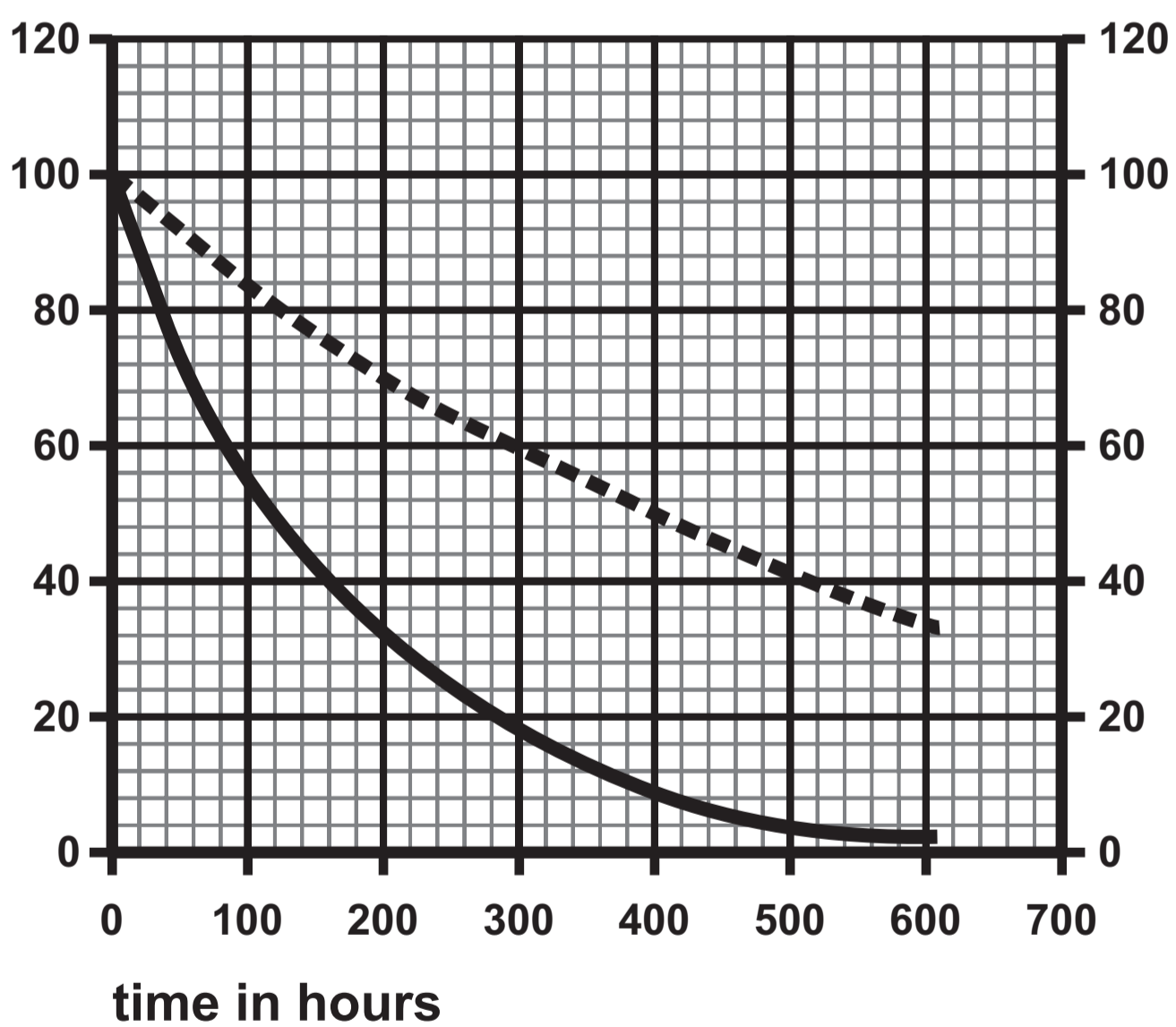
FIGURE 23

KEY

----- isotope Q

———— isotope P

activity in Bq



Question 1(b)

FIGURE 1

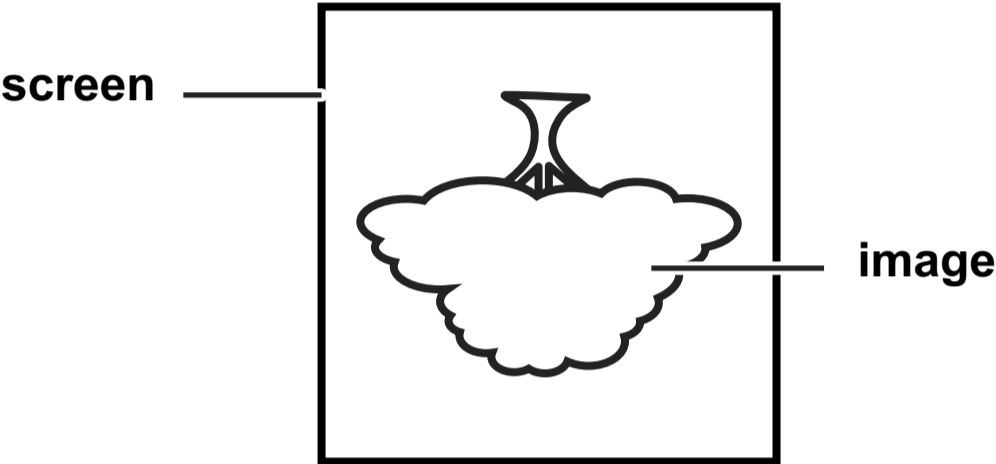
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FIGURE 2

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Question 2(b)

FIGURE 5



student's descriptions of the image		correction
upside down	YES	
bigger than the actual tree	NO	
virtual	NO	

Question 5(e)(ii)

FIGURE 11

