Practice Question Set For GCSE
Subject : Physics
Paper-1 Topic : Waves

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Name of the Student:_____
Max. Marks : 21 Marks **Time : 21 Minutes**

Q1.

Answer the question with a cross in the box you think is correct ☒ . If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒ .

Figure 4 shows a wave on the sea moving towards a beach.

Figure 4

Which one of these is correct?

(1)

☒ **A** amplitude is the distance between two waves

☒ **B** frequency is the number of waves arriving at the beach per second

☒ **C** speed is the number of waves arriving at the beach per second

☒ **D** wavelength is the height of a wave

(Total for question = 1 mark)

Q2.

Answer the question with a cross in the box you think is correct ☒ . If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒ .

Which one of these is a longitudinal wave?

(1)

☒ **A** gamma

☒ **B** infrared

☒ **C** radio

☒ **D** sound

(Total for question = 1 mark)

Q3.

Answer the question with a cross in the box you think is correct (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

A sound wave can transfer information across a room.

Which row of the table shows what else a sound wave can transfer?

(1)

	can transfer energy	can transfer air
☒ **A**	yes	yes
☒ **B**	yes	no
☒ **C**	no	yes
☒ **D**	no	no

(Total for question = 1 mark)

Q4.

Answer the question with a cross in the box you think is correct ☒ . If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒ .

Microwave ovens use microwaves.

Figure 1 shows a slice of bread that has been in a microwave oven.

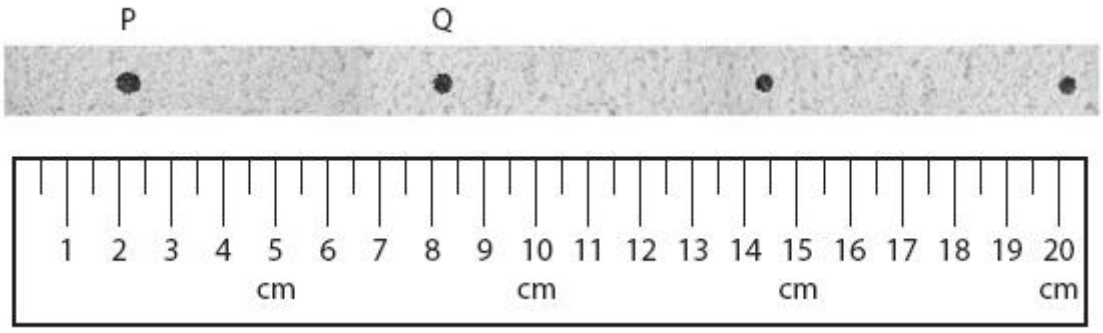

Figure 1

The dark spots are caused by the microwaves.

The spots are half a wavelength apart.

A technician measures the distance between P and Q to determine the wavelength of the microwaves.

(i) Which one of these is the wavelength measured using this method?

(1)

☒ **A** 2 cm

☒ **B** 6 cm

☒ **C** 12 cm

☒ **D** 20 cm

(ii) Describe how the technician could obtain a more accurate value for the wavelength from Figure 1.

(2)

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(Total for question = 3 marks)

Q5.

Answer the question with a cross in the box you think is correct ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Figure 7 shows a wave on the surface of water.

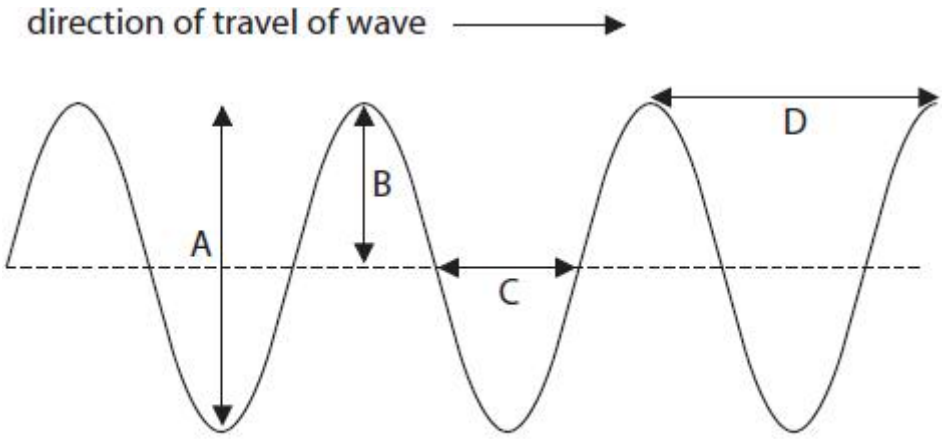

Figure 7

(i) Which of the arrowed lines shows the amplitude of the wave?

(1)

- ☐ **A**
- ☐ **B**
- ☐ **C**
- ☐ **D**

(ii) Explain why the wave shown in Figure 7 is a transverse wave.

(2)

.....

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.....

.....

(Total for question = 3 marks)

Q5.

Answer the question with a cross in the box you think is correct (☒). If you change your mind about an answer, put a line through the box (☒) and then mark your new answer with a cross (☒).

Which of these always increases as a sound gets louder?

(1)

- ☐ **A** amplitude
- ☐ **B** frequency
- ☐ **C** speed
- ☐ **D** wavelength

(Total for question = 1 mark)

Q6.

Figure 3 shows a ray of light going from air to glass.

Fill in the labels in Figure 3 using words from the box.

critical	incident	normal	reflected	refracted

(3)

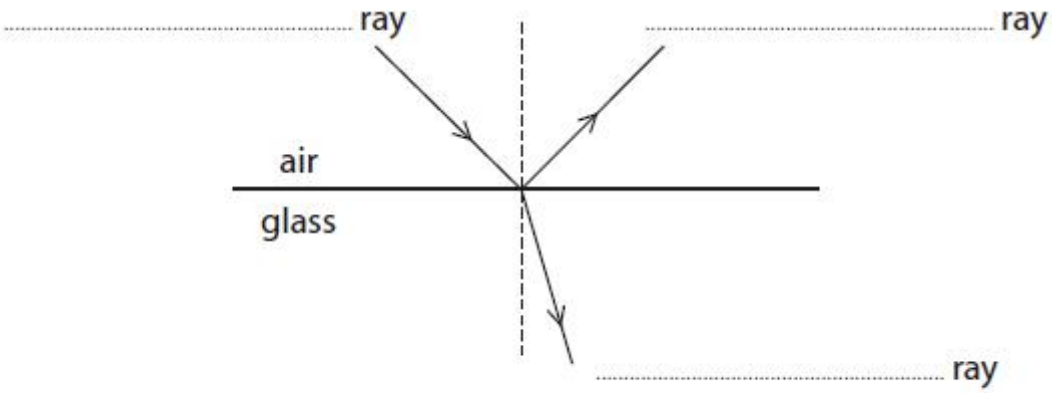
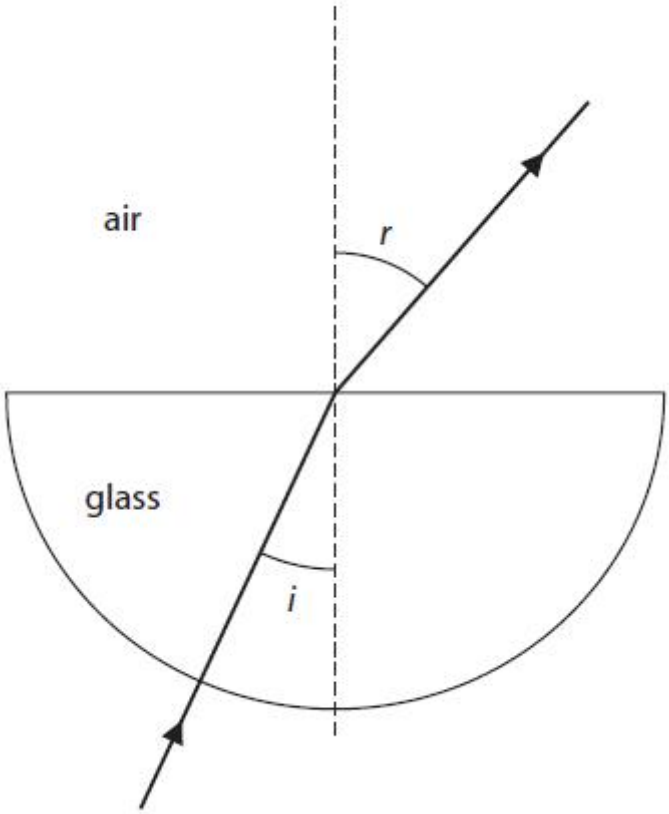


Figure 3

(Total for question = 3 marks)

Q7.

A student investigates the way light passes through glass.
The diagram shows the path of a ray of light through the glass.



(a) State the scientific name for the dotted line in the diagram.

(1)

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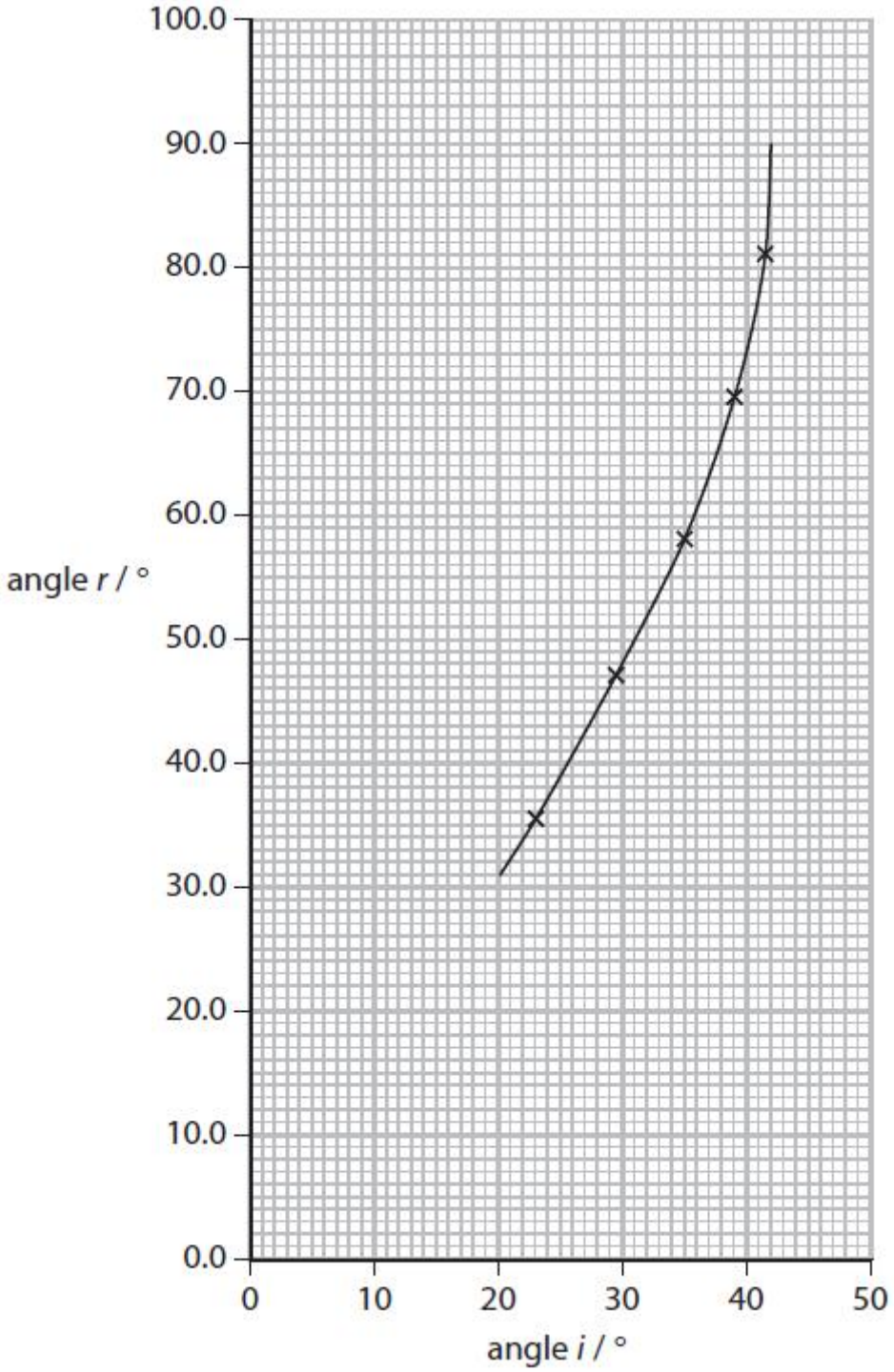
(b) The student measures several values of angle *i* and angle *r*.
She plots some of her results on the graph.
The table shows results that she has not plotted.

angle *i*	angle *r*
0°	0°
6°	9°

(i) Plot these results on the graph.

(2)



(ii) Continue the line on the graph through the results you have plotted.

(1)

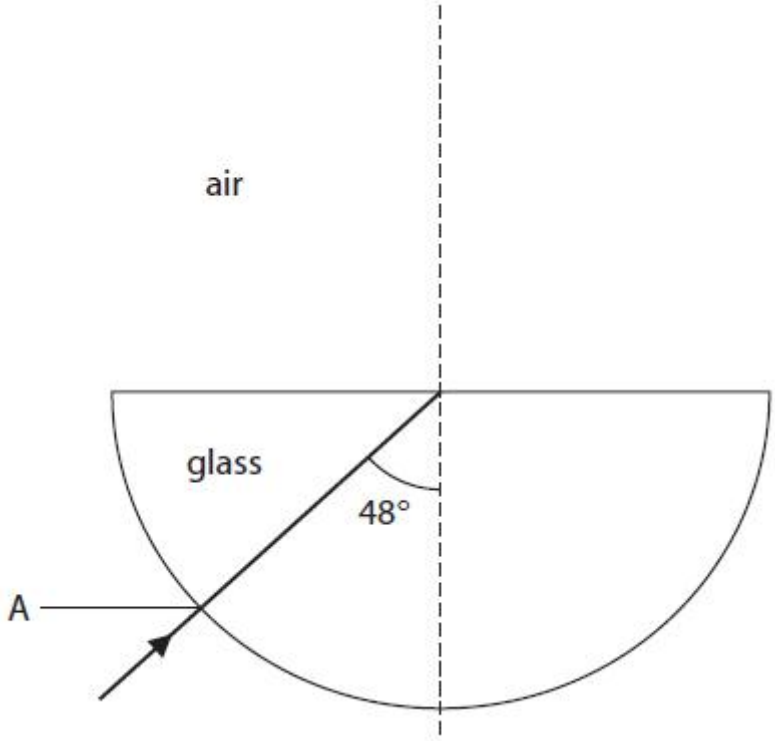
(iii) Write down the value of angle *i* when angle *r* = 90°.

(1)

angle *i* = ... °

(c) (i) Complete the diagram to show what happens to the ray of light when angle *i* is 48°.

(2)



(ii) State why the ray of light does not change direction when it enters the glass at A.

(1)

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(Total for Question = 8 marks)