Name of the Student:_____
Max. Marks : 20 Marks **Time : 20 Minutes**

Q1.

Figure 27 shows how atmospheric pressure changes with height above sea level.

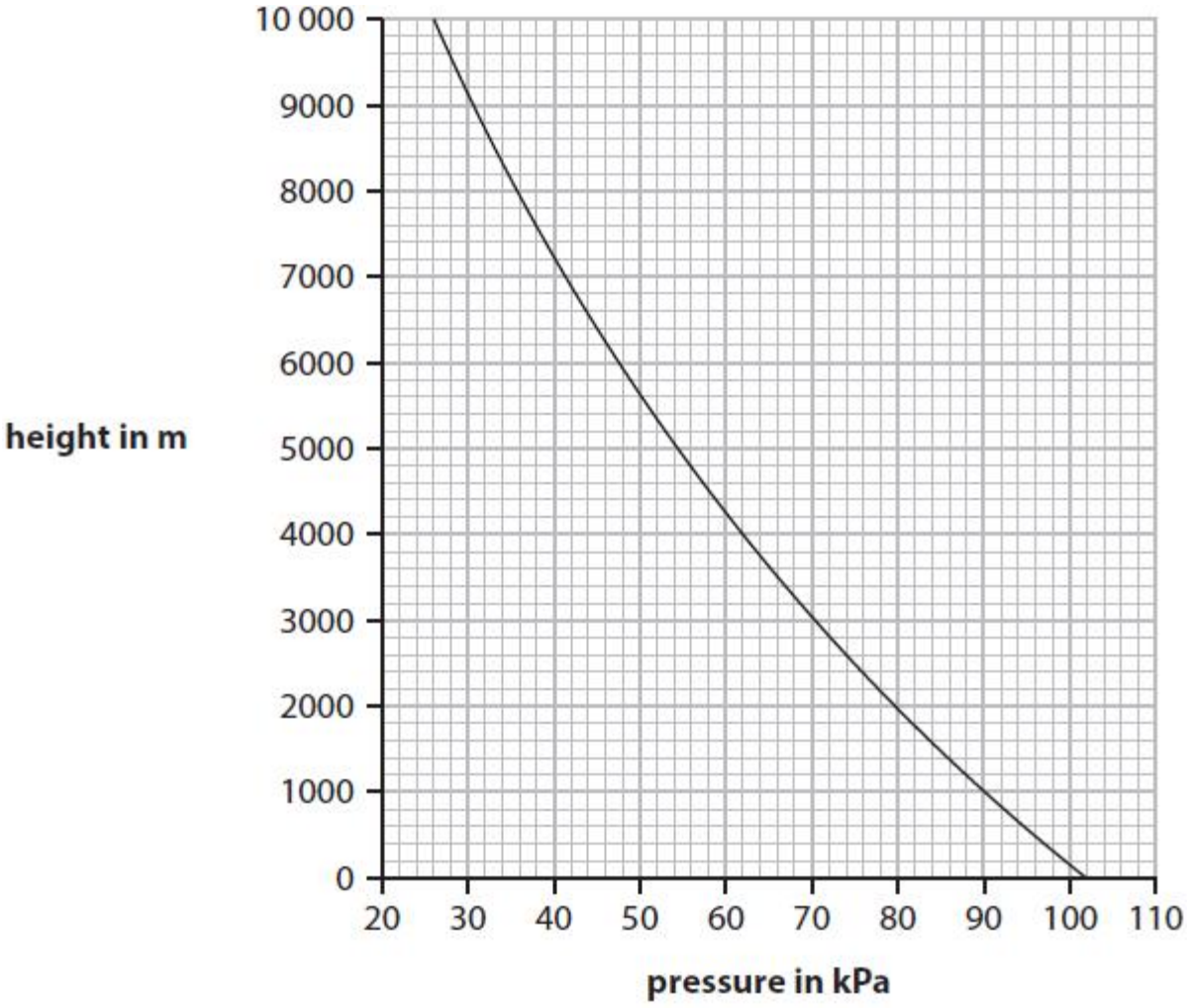


Figure 27

(i) Using the graph, describe how atmospheric pressure changes with height above sea level.

(2)

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.....

(ii) The top of Mount Everest is 8850 m above sea level.

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Using the graph, estimate the atmospheric pressure at the top of Mount Everest.

(1)

pressure = ... kPa

(iii) On a different day, the pressure at sea level is 104 kPa and the pressure at a height of 2500 m is 74 kPa.

Calculate the percentage change in pressure from sea level to the height of 2500 m.

(2)

percentage change = ... %

(Total for question = 5 marks)

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Q2.

Figure 24 shows the atmospheric pressure at different heights above the Earth's surface.

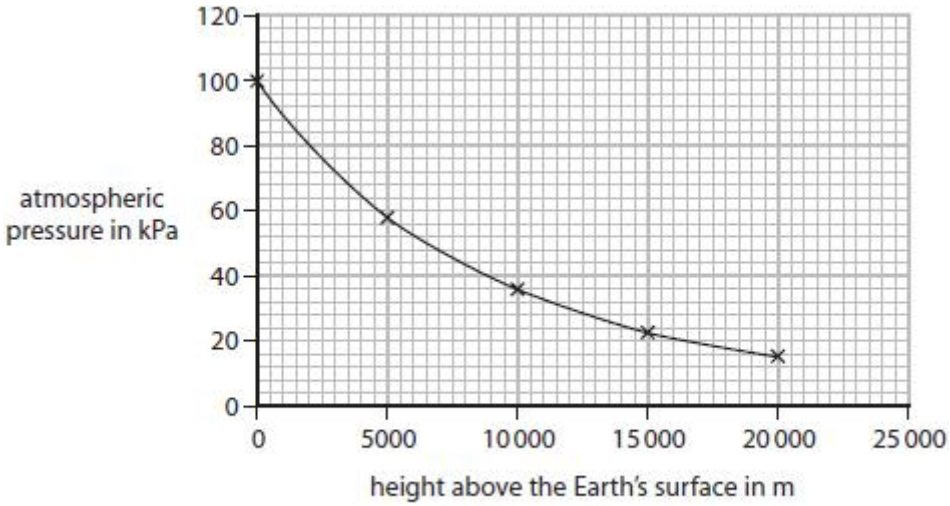


Figure 24

(i) Describe how the atmospheric pressure changes with height above the Earth's surface.
Use data from Figure 24 to support your answer.

(3)

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(ii) Suggest **one** reason why the atmospheric pressure changes with height above the Earth's surface.

(1)

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.....

(Total for question = 4 marks)

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Q3.

A student investigates the stretching of a spring with the equipment shown in Figure 22.

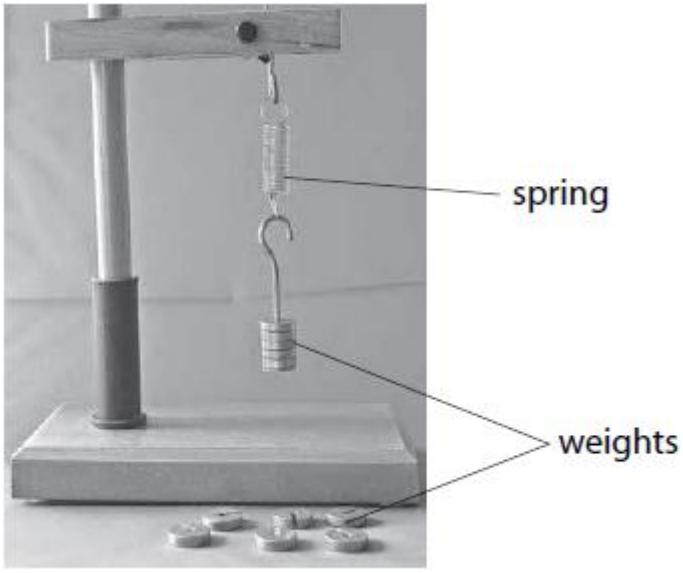


Figure 22

The student extends the investigation by finding information about the stretching of wires.
The student finds the graph shown in Figure 24 for the stretching of a wire.

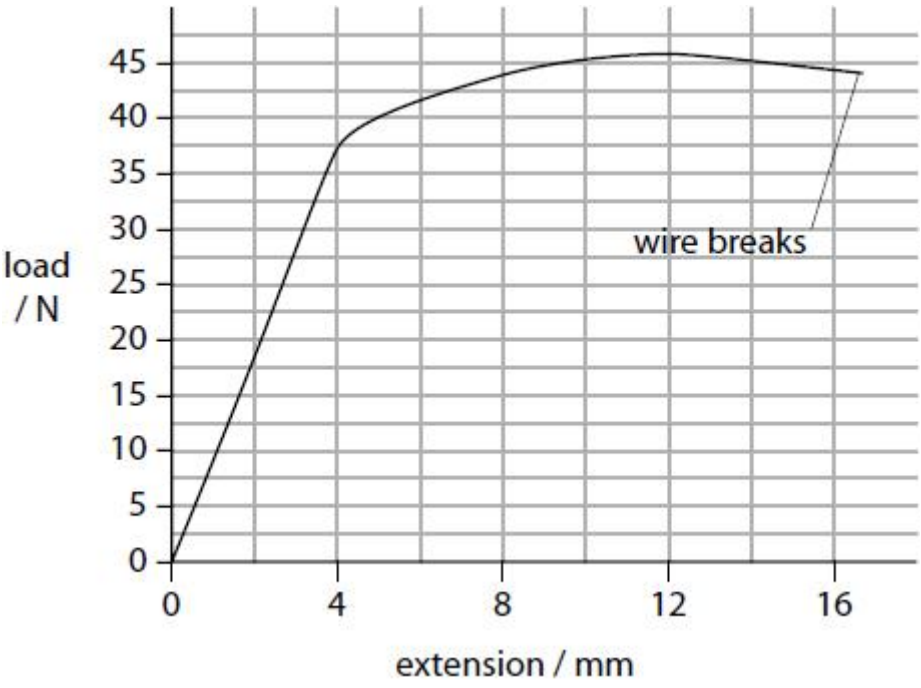


Figure 24

Describe the non-linear stretching of the wire shown in Figure 24.

(3)

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(Total for question = 3 marks)

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Q4.

Figure 26 shows two drawings of the same person on a bed.

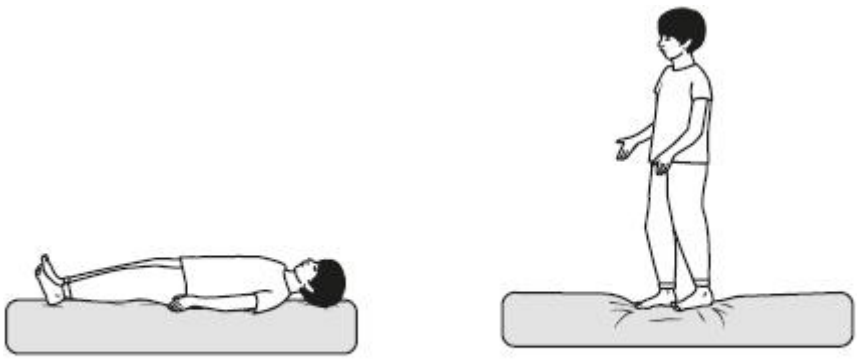


Figure 26

Explain why the person exerts a different pressure on the bed when standing up than when lying down.

(2)

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(Total for question = 2 marks)

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Q5.

Figure 28 is a model representing molecules of the Earth's atmosphere.

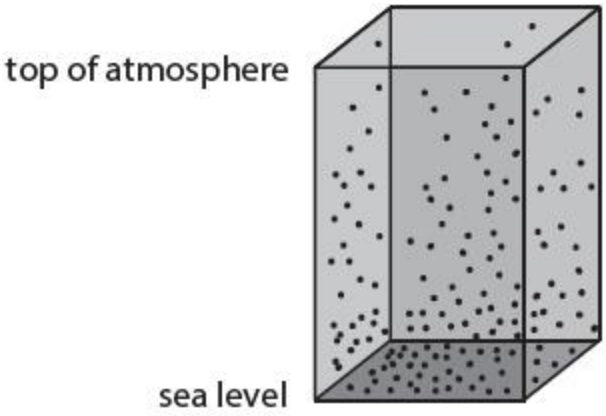


Figure 28

Use Figure 28 to explain how the density of the air varies with height above sea level.

(2)

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.....

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(Total for question = 2 marks)

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Q6.

A scuba diver is on a sandy beach.

She checks her compressed air cylinders before a dive.
She has two identical steel cylinders, A and B.
Each cylinder contains the same amount of compressed air.

Figure 25 shows the diver's cylinders.

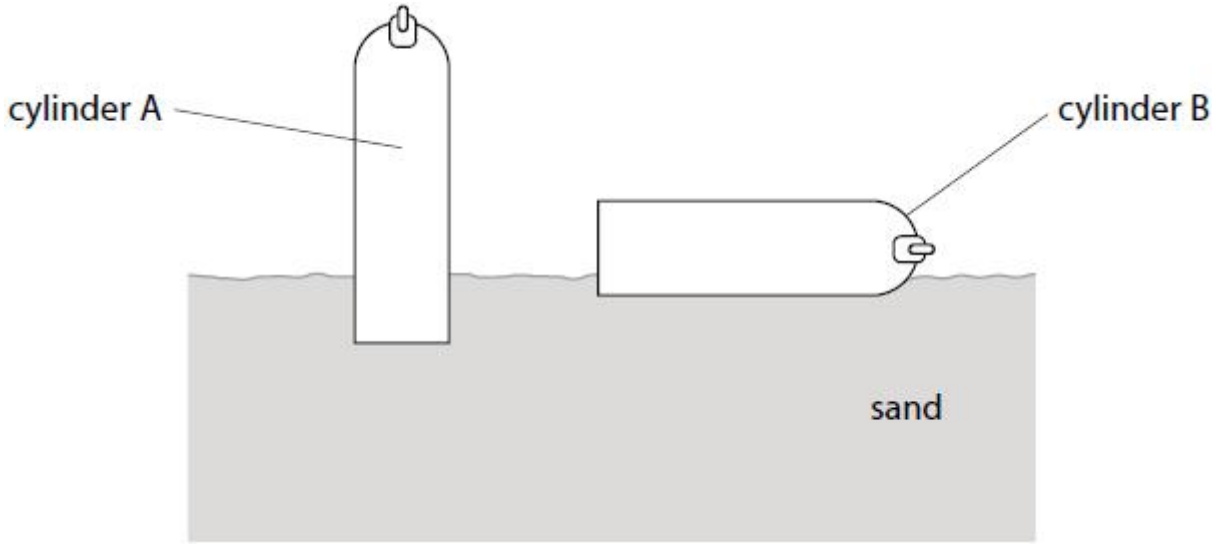


Figure 25

Explain why cylinder A sinks further into the sand than cylinder B.

Use ideas about pressure, force and area in your answer.

(4)

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(Total for question = 4 marks)

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