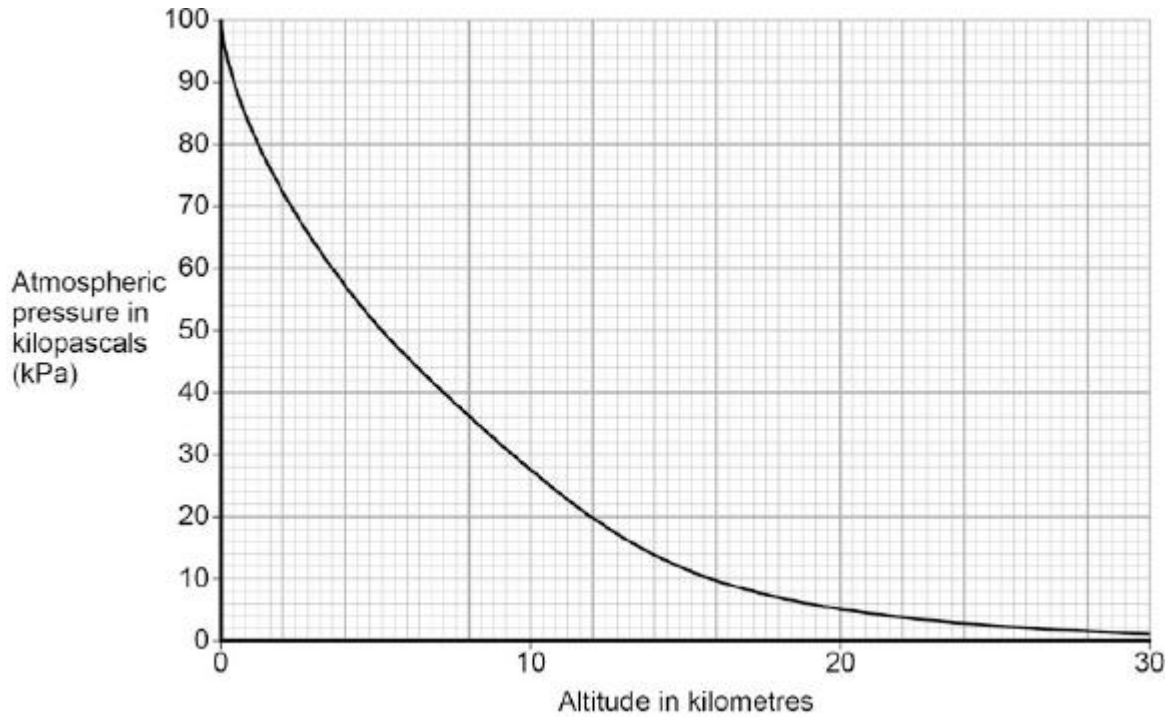


ATMOSPHERIC PRESSURE

Q1.

Figure 1 shows how atmospheric pressure varies with altitude.

Figure 1



(a) Explain why atmospheric pressure decreases with increasing altitude.

(3)

(b) When flying, the pressure inside the cabin of an aircraft is kept at 70 kPa.

The aircraft window has an area of 810 cm^2 .

Use data from **Figure 1** to calculate the resultant force acting on an aircraft window when the aircraft is flying at an altitude of 12 km.

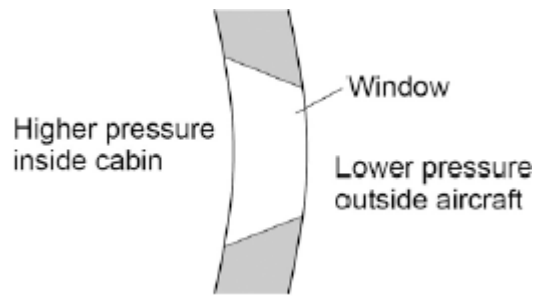
Give your answer to two significant figures

Resultant force = _____ N

(5)

(c) **Figure 2** shows the cross-section of one type of aircraft window.

Figure 2



Explain why the window has been designed to have this shape.

(2)

(Total 10 marks)

