01. 0625_w12_qp_12 Q: 13

A power station uses nuclear fission to obtain energy.

In this process, nuclear energy is **first** changed into

A chemical energy.

B electrical energy.

C gravitational energy.

D thermal (heat) energy.

---

02. 0625_w12_qp_13 Q: 9

A power station uses nuclear fission to obtain energy.

In this process, nuclear energy is **first** changed into

A chemical energy.

B electrical energy.

C gravitational energy.

D thermal (heat) energy.

1.8 Pressure

03. 0625_m22_qp_22 Q: 14

An object is at rest on a horizontal surface.

Which equation is used to calculate the pressure that the object exerts?

A $\frac{\text{mass of the object}}{\text{area of contact}}$

B $\frac{\text{weight of the object}}{\text{area of contact}}$

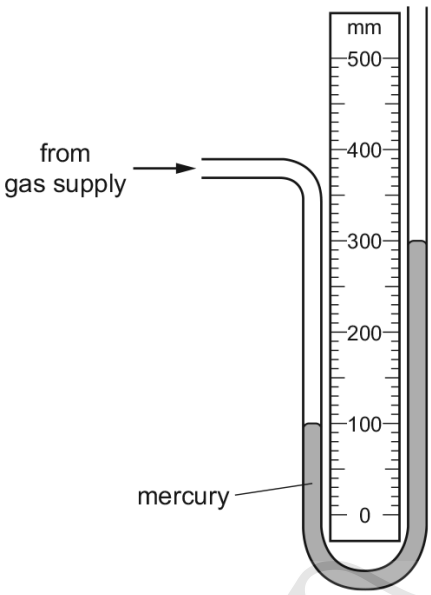
C mass of the object $\times$ area of contact

D weight of the object $\times$ area of contact

---

04. 0625_m21_qp_22 Q: 12

The diagram shows a manometer connected to a gas supply.



What is the pressure of the gas supply?

A 100 mm Hg above atmospheric pressure

B 100 mm Hg below atmospheric pressure

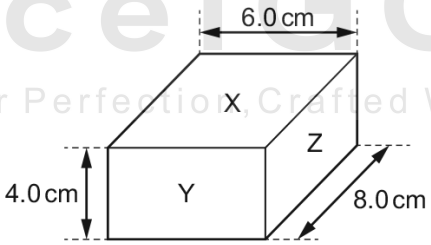
C 200 mm Hg above atmospheric pressure

D 200 mm Hg below atmospheric pressure

---

05. 0625_m21_qp_22 Q: 13

The diagram shows a box of dimensions 6.0 cm × 8.0 cm × 4.0 cm.



The box rests on a flat horizontal surface.

On which face must the box rest in order to exert the least pressure?

A face X

B face Y

C face Z

D The pressure is the same for all the faces.

---

06. 0625_s21_qp_21 Q: 12

A book has a mass of 400 g.

The surface of the book in contact with a table has dimensions 0.10 m × 0.20 m.

The gravitational field strength *g* is 10 N / kg.

What is the pressure exerted on the table due to the book?

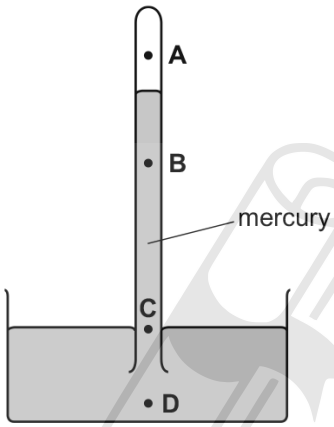
A 0.08 N / m^2 **B** 8.0 N / m^2 **C** 20 N / m^2 **D** 200 N / m^2

---

07. 0625_s21_qp_21 Q: 13

The diagram shows a mercury barometer.

At which point is the pressure greater than atmospheric pressure?



---

08. 0625_s21_qp_22 Q: 12

A book has a mass of 400 g.

The surface of the book in contact with a table has dimensions 0.10 m × 0.20 m.

The gravitational field strength *g* is 10 N / kg.

What is the pressure exerted on the table due to the book?

A 0.08 N / m^2 **B** 8.0 N / m^2 **C** 20 N / m^2 **D** 200 N / m^2

---

09. 0625_s21_qp_22 Q: 13

A horizontal metal plate of area 0.50 m^2 lies at the bottom of a lake at a depth of 40 m.

The density of water is 1000 kg / m^3 and the gravitational field strength *g* is 10 N / kg.

What is the downward force acting on the plate due to the water?

A 20 kN **B** 80 kN **C** 200 kN **D** 800 kN

---

10. 0625_s21_qp_23 Q: 12

A book has a mass of 400 g.

The surface of the book in contact with a table has dimensions 0.10 m × 0.20 m.

The gravitational field strength g is 10 N/kg.

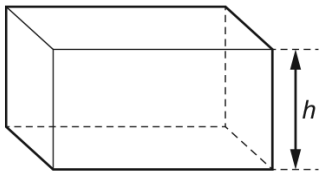
What is the pressure exerted on the table due to the book?

A $0.08\,N/m^2$ **B** $8.0\,N/m^2$ **C** $20\,N/m^2$ **D** $200\,N/m^2$

---

11. 0625_s21_qp_23 Q: 13

The diagram shows a tank full of water.



The mass of water in the tank is m.

The density of the water is ρ.

The height of water in the tank is h.

Which equation gives the pressure p due to the water at the bottom of the tank?

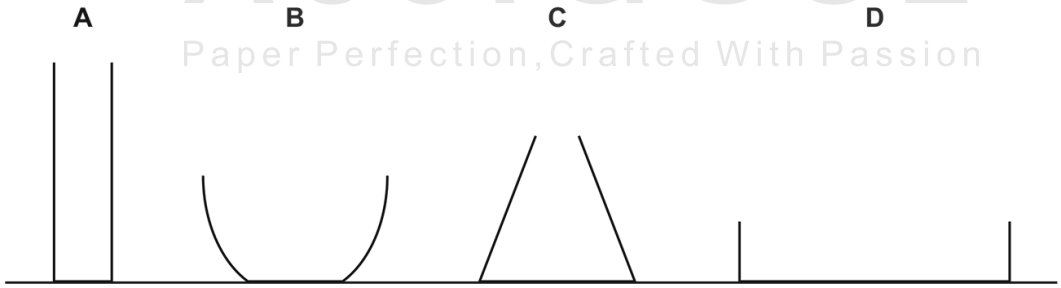
A $p = h\rho g$ **B** $p = mgh$ **C** $p = m\rho g$ **D** $p = m\rho h$

---

12. 0625_w21_qp_21 Q: 11

Four containers are filled to the top with the same liquid. The base of each container is circular.

Which container has the greatest pressure exerted by the liquid at its base?



---

13. 0625_w21_qp_22 Q: 11

Which equation can be used to calculate the pressure at a depth h beneath the surface of a liquid?

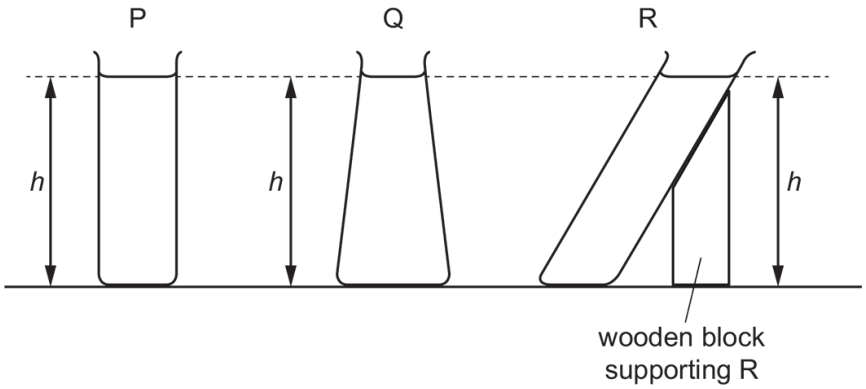
A $p = \frac{h}{\rho g}$ **B** $p = \frac{h\rho}{g}$ **C** $p = h\rho g$ **D** $p = \frac{1}{h\rho g}$

---

14. 0625_w21_qp_23 Q: 11

The diagram shows three glass containers.

All three contain water filled to the same vertical height *h*.



The base area of P is equal to the base area of R.

The base area of Q is larger than the other two.

Students are asked to compare the water pressure at the bottom of each container.

Student 1 says that the pressure at base R is more than the pressure at base P.

Student 2 says that the pressure at base Q is less than the pressure at base P.

Student 3 says that the pressures at all three bases are the same.

Which students are correct?

A none are correct

B 1 only

C 2 only

D 3 only

15. 0625_m20_qp_22 Q: 14

A skier is standing still on a flat area of snow.

The weight of the skier is 550 N. The total area of his skis in contact with the ground is 0.015 m^2.

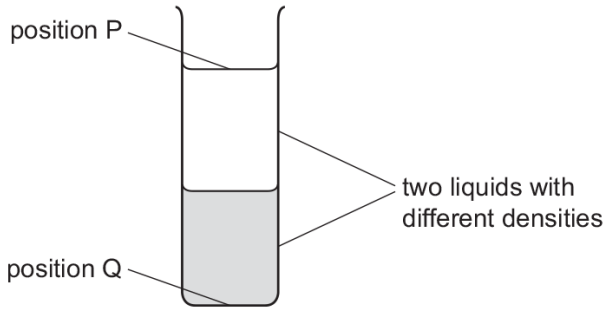
What is the pressure exerted on the ground by the skier?

A 0.83 N/m^2 **B** 8.3 N/m^2 **C** 3700 N/m^2 **D** 37 000 N/m^2

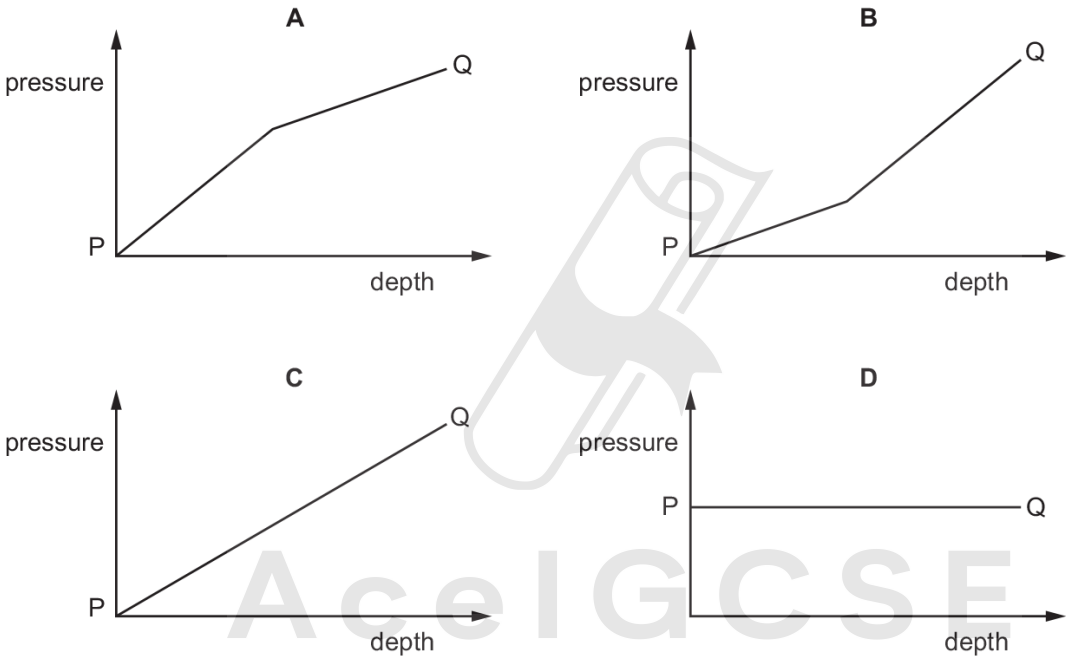
---

16. 0625_m20_qp_22 Q: 15

A tall cylinder is partly filled with two liquids which do not mix. The two liquids have different densities. A student measures the pressure due to the liquids at different depths.

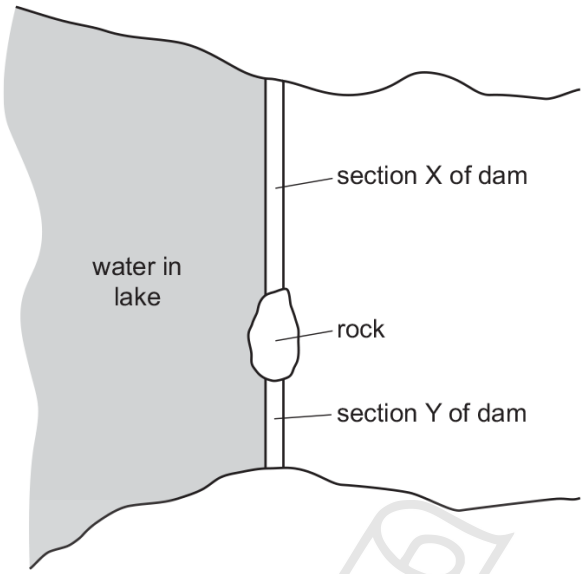


Which graph shows how the liquid pressure varies between positions P and Q?



17. 0625_p20_qp_20 Q: 14

A dam across a lake is divided into two sections by a rock. Section X is longer than section Y but the two sections are otherwise identical. The water in the lake by the dam is the same depth everywhere. The diagram shows a view from above of the lake and the dam.



The water creates a total force on each section of the dam and an average pressure on each section of the dam.

Which statement is correct?

A The average pressure on X equals the average pressure on Y.

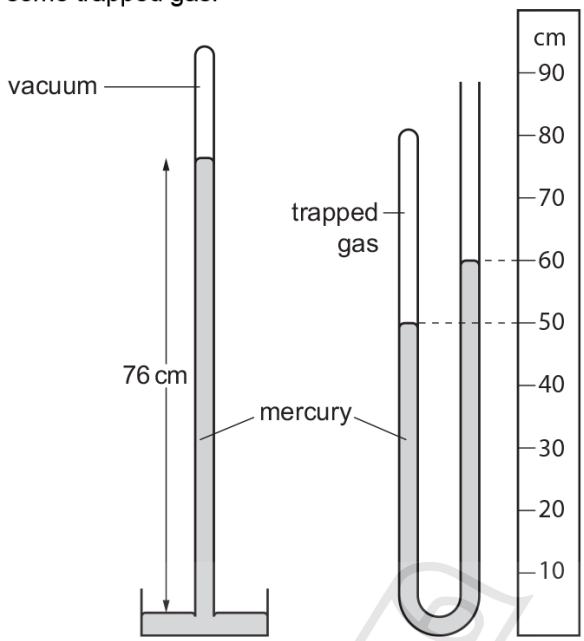
B The average pressure on X is less than the average pressure on Y.

C The total force on X equals the total force on Y.

D The total force on X is less than the total force on Y.

18. 0625_p20_qp_20 Q: 15

The diagram shows a simple mercury barometer alongside a mercury manometer. The manometer contains some trapped gas.



What is the pressure of the trapped gas?

A 10 cm of mercury

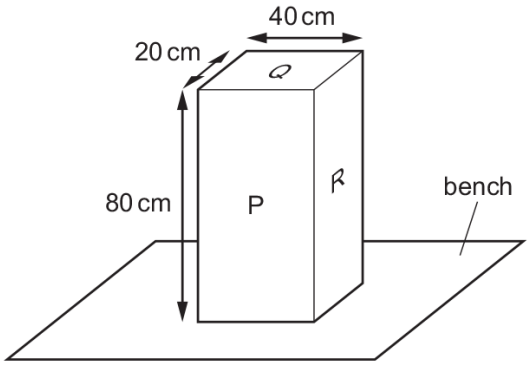
B 50 cm of mercury

C 66 cm of mercury

D 86 cm of mercury

19. 0625_s20_qp_21 Q: 12

The diagram shows a solid block resting on a bench. The dimensions of the block are shown.



On which labelled surface should the block rest to produce the smallest pressure on the bench?

A P

B Q

C R

D P, Q and R produce the same pressure

---

20. 0625_s20_qp_21 Q: 13

The pressure due to the liquid on an object immersed in that liquid is 4500 Pa.

The density of the liquid is 900 kg / m^3.

What is the depth of the object below the surface of the liquid?

A 0.5 cm **B** 2.0 cm **C** 50 cm **D** 200 cm

---

21. 0625_s20_qp_22 Q: 13

An object is 60 cm below the surface of a liquid. The pressure due to the liquid at this depth is 9000 Pa.

What is the density of the liquid?

A 15 kg / m^3 **B** 540 kg / m^3 **C** 1500 kg / m^3 **D** 54 000 kg / m^3

---

22. 0625_s20_qp_23 Q: 13

A pipe full of water connects a water supply on a hill to a tap lower down the hill.

The length of the pipe is 500 m. The height of the supply above the tap is 100 m.

The density of the water is 1000 kg / m^3. The effect of atmospheric pressure is negligible.

What is the water pressure at the tap?

A 100 000 Pa

B 500 000 Pa

C 1 000 000 Pa

D 5 000 000 Pa

---

23. 0625_w20_qp_21 Q: 13

A barometer reads 780 mm Hg. Mercury has a density of 1.36 × 10^4 kg / m^3.

What is the pressure of the atmosphere in N / m^2?

A 1.1×10^4 N / m^2

B 1.1×10^5 N / m^2

C 1.1×10^7 N / m^2

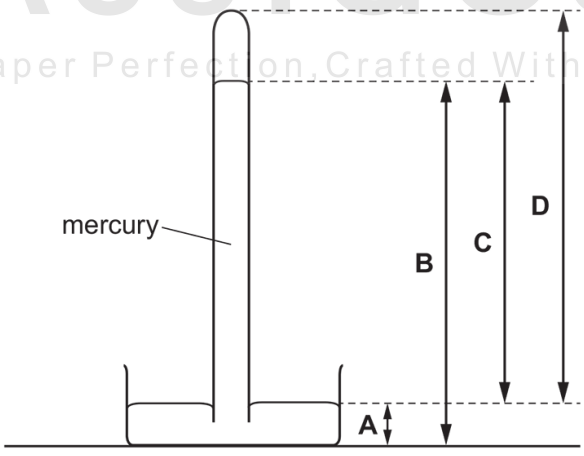
D 1.1×10^8 N / m^2

---

24. 0625_w20_qp_21 Q: 14

The diagram shows a mercury barometer.

Which height is used as a measurement of atmospheric pressure?



---

25. 0625_w20_qp_22 Q: 13

A research submarine is at a depth of 10 000 m below the surface of the sea.

The average density of the water above the submarine is 1030 kg / m^3.

The atmospheric pressure at the surface of the sea is 103 000 Pa.

How many times greater is the pressure due to the sea water than the atmospheric pressure?

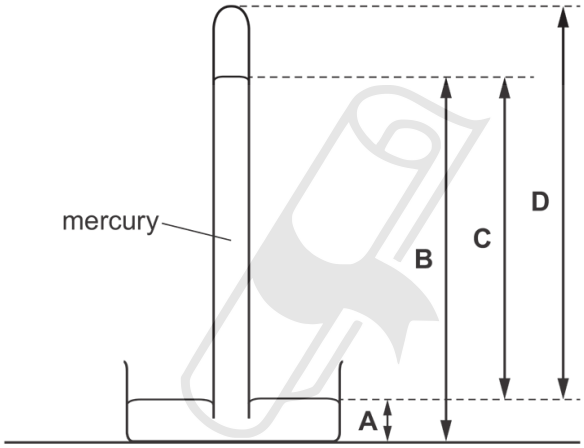
A 10 **B** 100 **C** 1000 **D** 100 000

---

26. 0625_w20_qp_22 Q: 14

The diagram shows a mercury barometer.

Which height is used as a measurement of atmospheric pressure?



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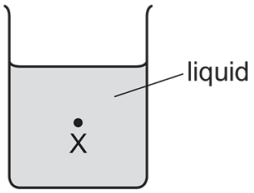
27. 0625_w20_qp_23 Q: 13

A student calculates the pressure due to the liquid at point X.



The student takes four measurements.

1 density of the liquid

2 temperature of the liquid

3 depth of point X below the surface of the liquid

4 surface area of the liquid

Which measurements must the student use in her pressure calculation?

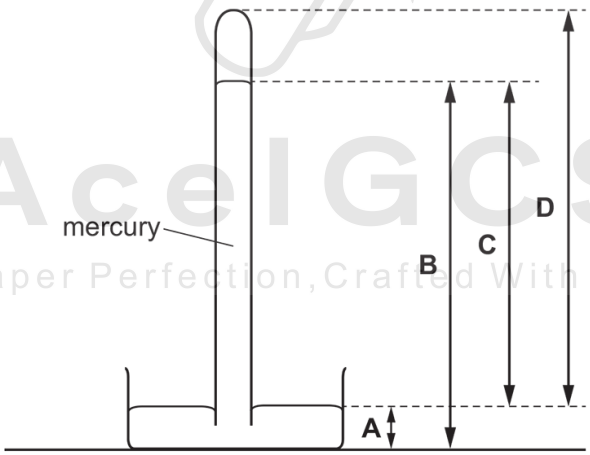
A 3 and 4 **B** 1 and 3 **C** 1 and 2 **D** 2 and 3

---

28. 0625_w20_qp_23 Q: 14

The diagram shows a mercury barometer.

Which height is used as a measurement of atmospheric pressure?



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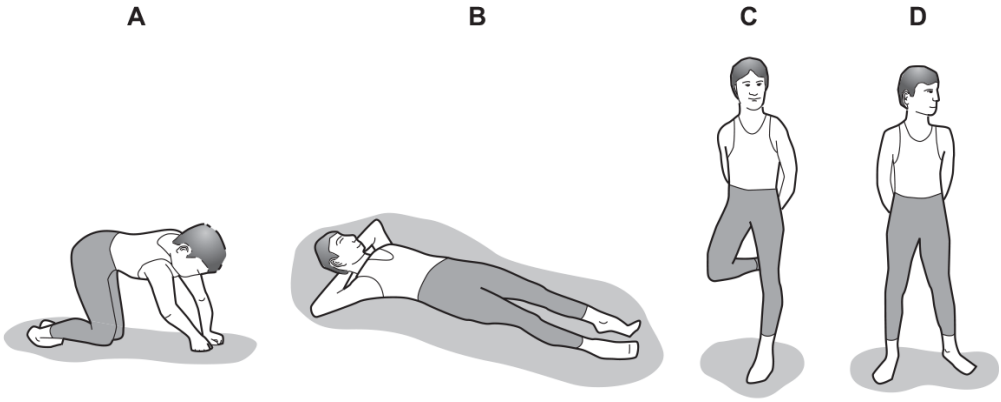
29. 0625_m19_qp_22 Q: 14

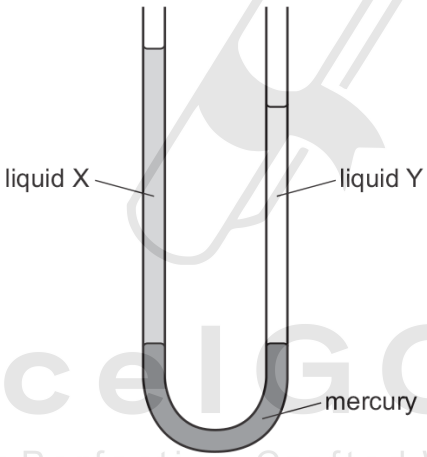
Which diagram shows an athlete exerting least pressure on the ground?



---

30. 0625_m19_qp_22 Q: 15

The diagram shows a U-tube manometer containing three liquids: mercury, liquid X and liquid Y. Neither liquid X or liquid Y mixes with mercury.



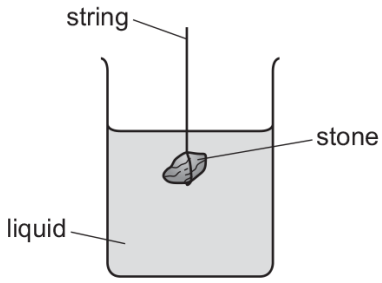
Which row compares the pressure exerted by liquid X and by liquid Y on the mercury, and the density of liquid X and the density of liquid Y?

	pressure exerted by X and by Y on the mercury	densities of X and of Y
A	pressure of X is greater than Y	density of X is greater than Y
B	pressure of Y is greater than X	density of Y is greater than X
C	pressure of X and of Y is the same	density of X is greater than Y
D	pressure of X and of Y is the same	density of Y is greater than X

---

31. 0625_s19_qp_21 Q: 13

The diagram shows a stone suspended on a string under the surface of a liquid. The stone experiences a pressure caused by the liquid.



What would increase the pressure on the stone?

A decreasing the surface area of the stone

B increasing the mass of the stone

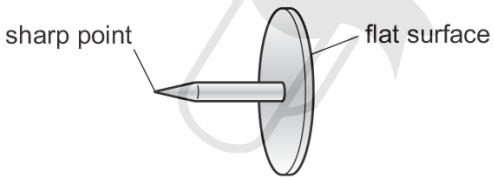
C lowering the stone deeper into the liquid

D using a liquid with a lower density

---

32. 0625_w19_qp_21 Q: 13

A drawing pin (thumb tack) has a sharp point at one end and a flat surface at the other end.



The pin is pushed into a wooden board.

How do the pressure and the force at the sharp point compare with the pressure and the force on the flat surface?

	force at the sharp point	pressure at the sharp point
A	greater than on the flat surface	greater than on the flat surface
B	greater than on the flat surface	less than on the flat surface
C	the same as on the flat surface	greater than on the flat surface
D	the same as on the flat surface	less than on the flat surface

---

33. 0625_w19_qp_21 Q: 14

An object is 20 cm below the surface of a liquid. The density of the liquid is 1200 kg / m^3.

What is the pressure on the object due to the liquid?

A 600 Pa **B** 2400 Pa **C** 60 000 Pa **D** 240 000 Pa

---

34. 0625_w19_qp_22 Q: 15

The density of mercury is 13 600 kg / m^3.

What is the pressure at the bottom of a column of mercury that has a height of 75.0 cm?

A 1.02×10^4 Pa

B 1.02×10^5 Pa

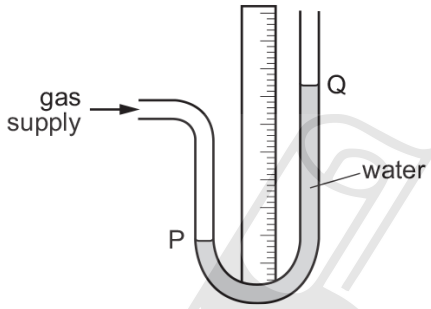
C 1.02×10^6 Pa

D 1.02×10^7 Pa

---

35. 0625_m18_qp_22 Q: 13

A water manometer is connected to a gas supply.



There is a gas leak and the pressure of the gas supply falls.

What happens to the water level at P and what happens to the water level at Q?

	water level at P	water level at Q
A	falls	falls
B	falls	rises
C	rises	falls
D	rises	rises

---

36. 0625_m18_qp_22 Q: 14

A submarine is 20 m below the surface of the sea. The pressure due to the water at this depth is *P*.

On another day, the submarine is 26 m below the surface of fresh water.

The density of sea water is 1.3 times the density of fresh water.

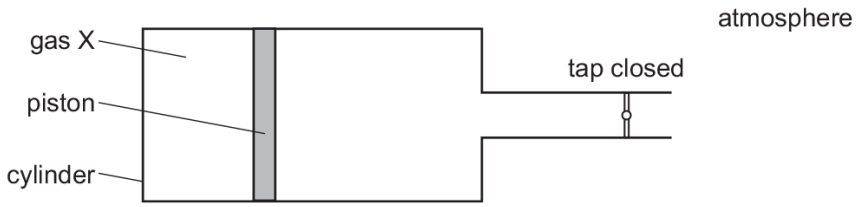
What is the pressure due to the fresh water at a depth of 26 m?

A $\frac{P}{1.3}$ **B** P **C** $1.3P$ **D** $1.7P$

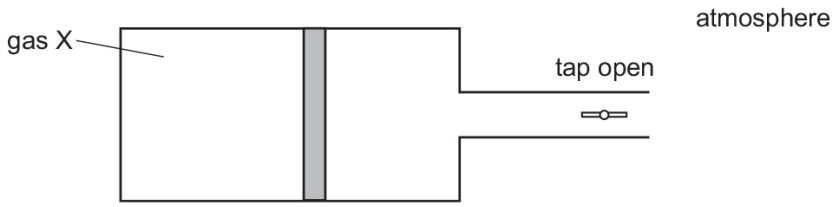
---

37. 0625_m18_qp_22 Q: 15

A cylinder with a tap contains a fixed mass of gas X. The gas is contained by a piston which can move freely towards or away from the tap.



When the tap is opened, the piston moves slightly to the right, towards the tap.



What can be deduced about the pressure of gas X?

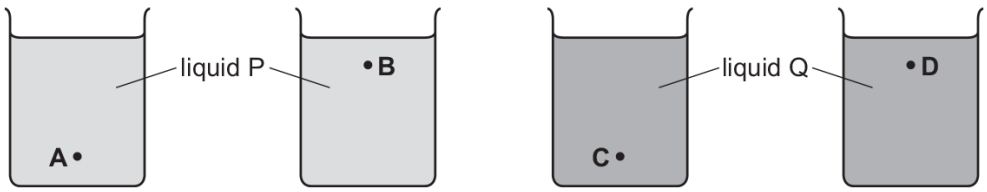
	before opening tap	after opening tap
A	less than atmospheric pressure	more than atmospheric pressure
B	same as atmospheric pressure	more than atmospheric pressure
C	more than atmospheric pressure	less than atmospheric pressure
D	more than atmospheric pressure	same as atmospheric pressure

---

38. 0625_s18_qp_21 Q: 13

Four identical beakers are filled with equal volumes of liquids P or Q, as shown. Liquid P is more dense than liquid Q.

At which point is the pressure the least?



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39. 0625_s18_qp_21 Q: 14

An oil tank has a base of area 2.5 m^2 and is filled with oil to a depth of 1.2 m.

The density of the oil is 800 kg/m^3.

What is the force exerted on the base of the tank due to the oil?

A 960 N **B** 2400 N **C** 9600 N **D** 24 000 N

---

40. 0625_s18_qp_22 Q: 13

A submarine is in water of density 1.0×10^3 kg/m^3. The submarine changes its depth. This causes the pressure on it to change by 0.10 MPa.

What is the change in depth of the submarine?

A 0.10 m **B** 10 m **C** 100 m **D** 1000 m

---

41. 0625_s18_qp_23 Q: 13

A simple barometer includes a column of mercury.

Which property of this column of mercury is used to give a measurement of atmospheric pressure?

A its cross-sectional area

B its height

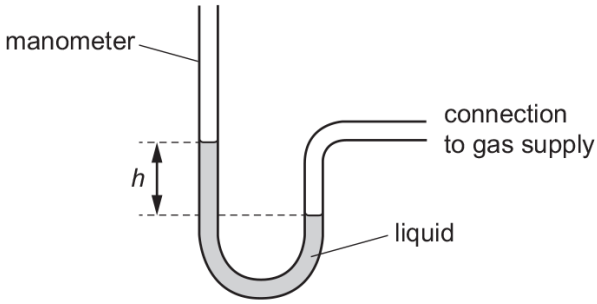
C its temperature

D its thermal capacity

---

42. 0625_w18_qp_21 Q: 12

A manometer is used to measure the pressure of a gas supply.



Which change gives a greater value of height *h*?

A using a less dense liquid

B using a more dense liquid

C using a narrower tube

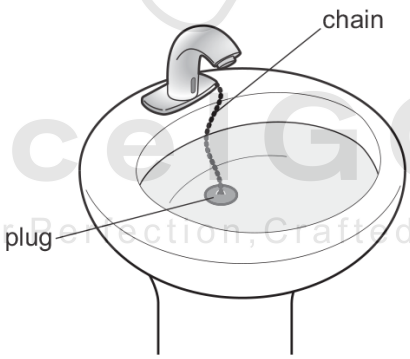
D using a wider tube

---

43. 0625_w18_qp_21 Q: 13

A washbasin has an exit pipe covered with a plug of area 12 cm^2. A chain is attached to the centre of the plug to assist in pulling the plug away from the exit hole. The washbasin contains water to a depth of 0.080 m.

The density of the water is 1000 kg/m^3.



What is the force acting on the plug due to the water?

A 0.96 N **B** 800 N **C** 9600 N **D** 80 000 N

---

44. 0625_m17_qp_22 Q: 11

A column of liquid has height *h*, mass *m* and density ρ. The gravitational field strength is *g*.

Which expression gives the pressure due to the column of liquid?

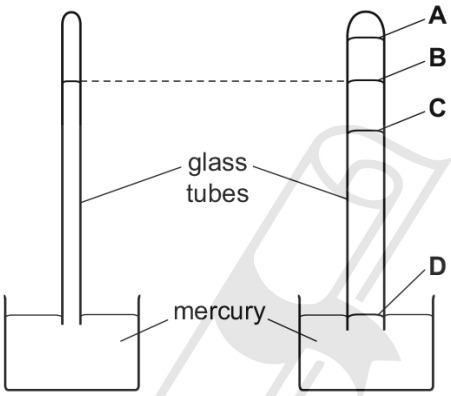
A $h\rho$ **B** $m\rho$ **C** mgh **D** ρgh

---

45. 0625_m17_qp_22 Q: 12

The diagrams show two mercury barometers. The right-hand diagram shows a tube of larger diameter. There is a vacuum above the mercury in both tubes.

Which labelled position on the right-hand tube shows the mercury level in the right-hand tube?



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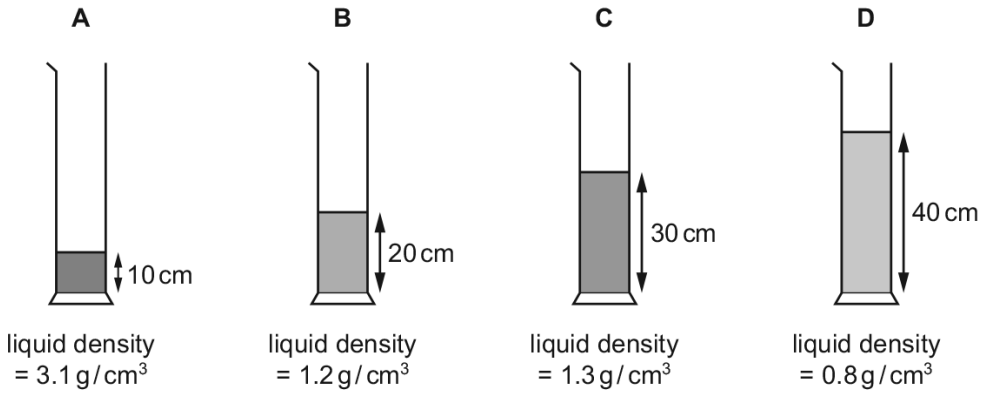
46. 0625_s17_qp_21 Q: 13

Four different liquids are poured into four containers.

The diagrams show the depth and the density of liquid in each container.

In which container is the pressure on its base the greatest?



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47. 0625_s17_qp_23 Q: 4

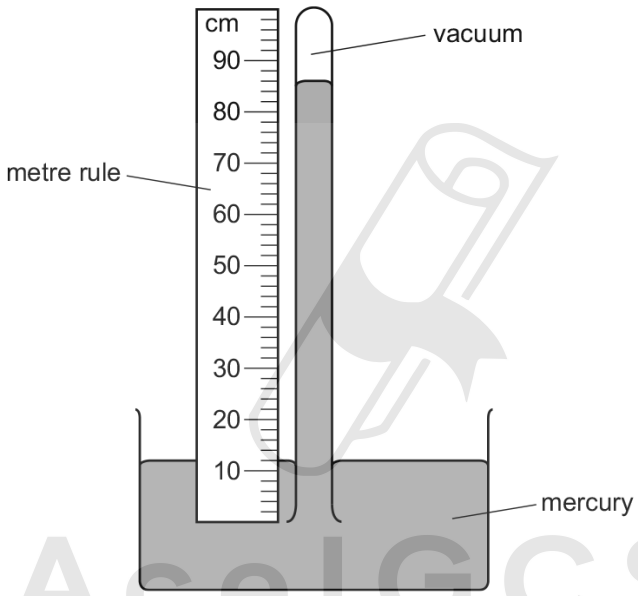
What are the units for mass, pressure and velocity?

	mass	pressure	velocity
A	kg	N s	Pa
B	kg	Pa	m / s
C	N s	Pa	m / s
D	Pa	N s	m / s

---

48. 0625_w17_qp_21 Q: 13

The diagram shows a simple mercury barometer.



Which length is used to find the value of atmospheric pressure?

A 12 cm **B** 74 cm **C** 86 cm **D** 100 cm

---

49. 0625_m16_qp_22 Q: 12

A force acts on an area to produce a pressure.

Which changes produce the same pressure?

A double the area and double the force

B double the area and halve the force

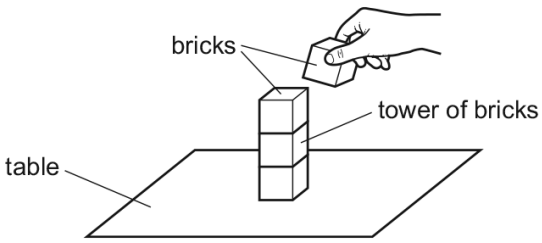
C double the area and make the force four times bigger

D halve the area and double the force

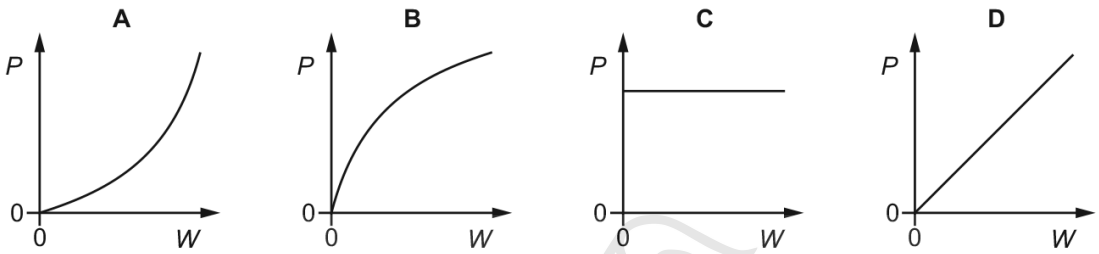
---

50. 0625_m16_qp_22 Q: 13

Identical toy bricks are placed one on top of another to make a tower on a table.

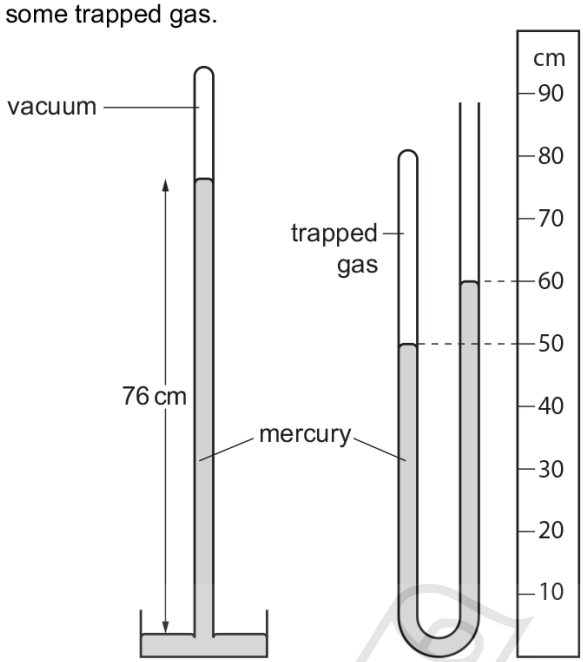


Which graph shows the relationship between the pressure *P* that the tower exerts on the table and the weight *W* of the tower?



51. 0625_p16_qp_20 Q: 15

The diagram shows a simple mercury barometer alongside a mercury manometer. The manometer contains some trapped gas.



What is the pressure of the trapped gas?

A 10 cm of mercury

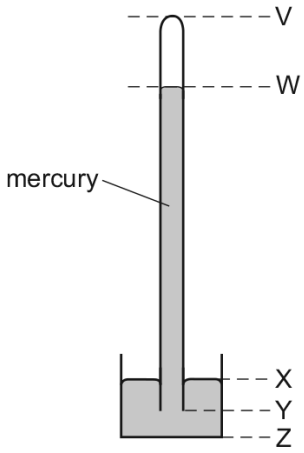
B 50 cm of mercury

C 66 cm of mercury

D 86 cm of mercury

52. 0625_s16_qp_21 Q: 13

The diagram shows a simple mercury barometer.



The atmospheric pressure increases.

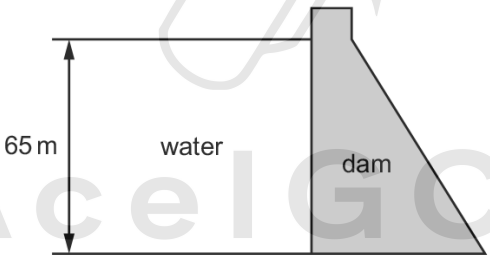
Which distance increases?

A VW **B** WY **C** XY **D** XZ

---

53. 0625_w16_qp_21 Q: 12

The diagram shows a dam holding back water.



The depth of the water is 65 m.

The density of the water is 1000 kg / m^3. The gravitational field strength g is 10 N / kg.

What is the pressure exerted at the base of the dam due to the water?

A 15.4 Pa **B** 154 Pa **C** 65 000 Pa **D** 650 000 Pa

---

54. 0625_w16_qp_22 Q: 13

The equation used to find the pressure caused by a liquid can be written as

$$p = h \times Y \times Z$$

where p is the pressure and h is the depth of the liquid.

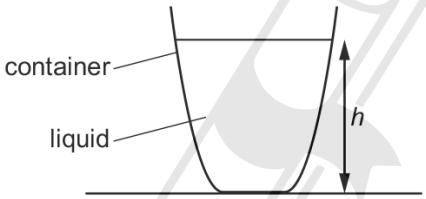
Which row gives the quantities Y and Z?

	Y	Z
A	cross-sectional area	gravitational field strength
B	cross-sectional area	volume
C	density	cross-sectional area
D	density	gravitational field strength

---

55. 0625_w16_qp_23 Q: 13

A container is filled with liquid to a certain depth h.



The pressure of the liquid at the bottom of the container depends on several factors.

Which is one factor on which the pressure does **not** depend?

A the strength of the Earth's gravitational field

B the density of the liquid

C the depth of the liquid

D the strength of the Earth's magnetic field

---

56. 0625_m15_qp_12 Q: 10

A vehicle sinks into soft ground.

The vehicle is changed so that it does not sink as far.

Which change is made?

A a lower centre of mass

B a more powerful engine

C wheels that are further apart

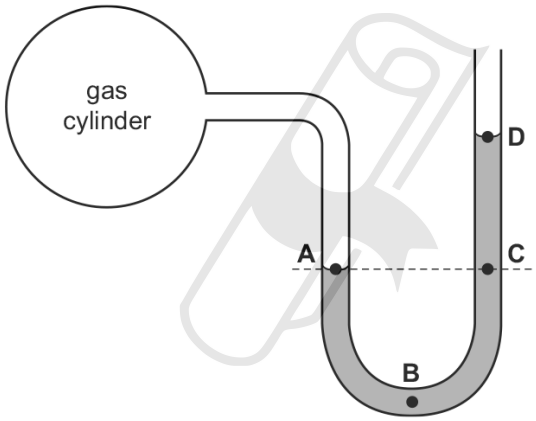
D wider tyres

---

57. 0625_m15_qp_12 Q: 11

A manometer is used to measure the pressure of a gas trapped in a cylinder.

At which labelled point on the diagram is the pressure greatest?

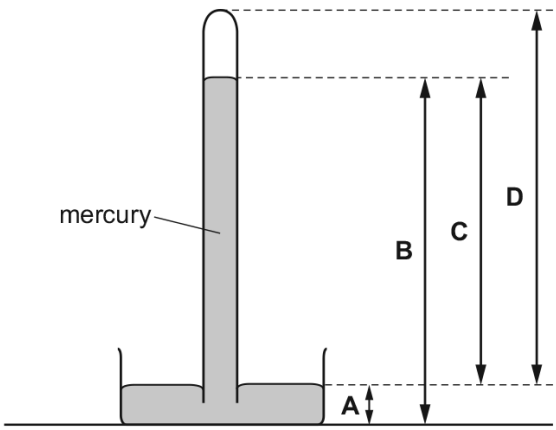


---

58. 0625_s15_qp_11 Q: 10

The diagram shows a simple mercury barometer.

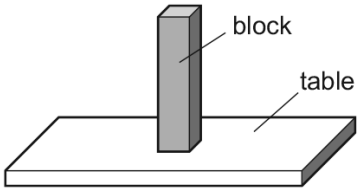
Which height is used as a measurement of atmospheric pressure?



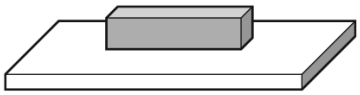
---

59. 0625_s15_qp_11 Q: 11

A block with flat, rectangular sides rests on a table.



The block is now turned so that it rests with its largest side on the table.



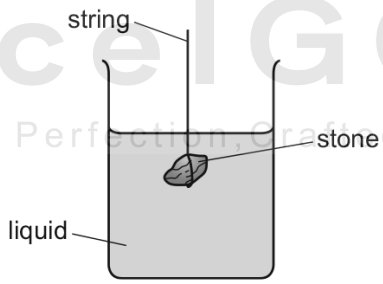
How has this change affected the force and the pressure exerted by the block on the table?

	force	pressure
A	decreased	decreased
B	decreased	unchanged
C	unchanged	decreased
D	unchanged	unchanged

---

60. 0625_s15_qp_12 Q: 10

The diagram shows a stone suspended under the surface of a liquid from a string. The stone experiences a pressure caused by the liquid.



What would increase the pressure on the stone?

A decreasing the surface area of the stone

B increasing the mass of the stone

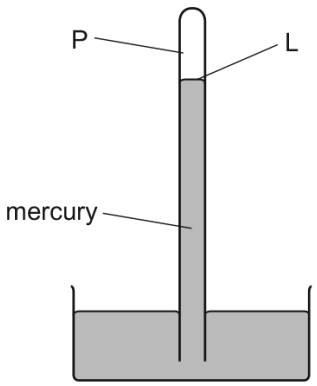
C lowering the stone deeper into the liquid

D using a liquid with a lower density

---

61. 0625_s15_qp_12 Q: 11

The diagram shows a simple mercury barometer, used to measure atmospheric pressure.



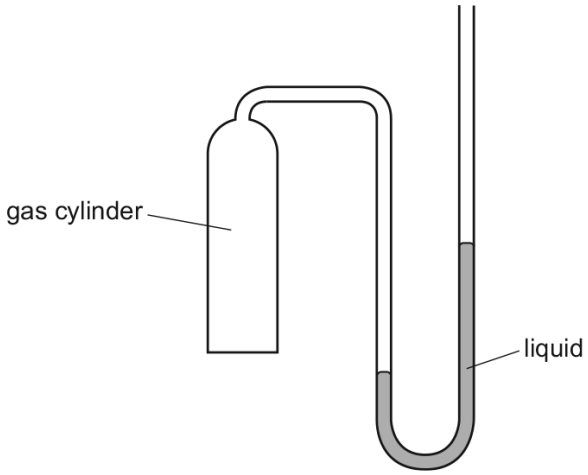
Atmospheric pressure decreases.

Which row states what happens to the pressure at point P and what happens to the level L?

	pressure at P	level L
A	decreases	falls
B	decreases	rises
C	stays the same	falls
D	stays the same	rises

62. 0625_s15_qp_13 Q: 10

The diagram shows a manometer with one side connected to a gas cylinder and the other side open to the atmosphere.



Which conclusion can be made using only the information from liquid levels in the manometer?

A The density of the gas is less than the density of air.

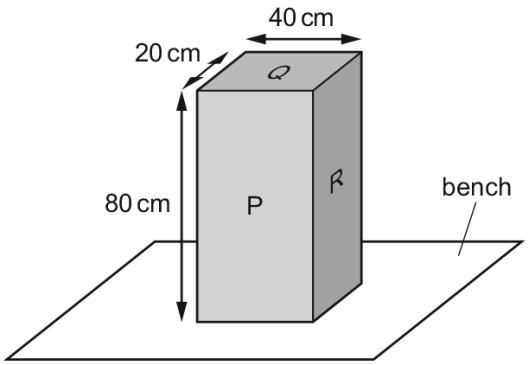
B The density of the gas is greater than the density of air.

C The pressure of the gas is less than atmospheric pressure.

D The pressure of the gas is greater than atmospheric pressure.

63. 0625_s15_qp_13 Q: 11

The diagram shows a solid block resting on a bench. The dimensions of the block are shown.



On which labelled surface should the block rest to produce the smallest pressure on the bench?

A P

B Q

C R

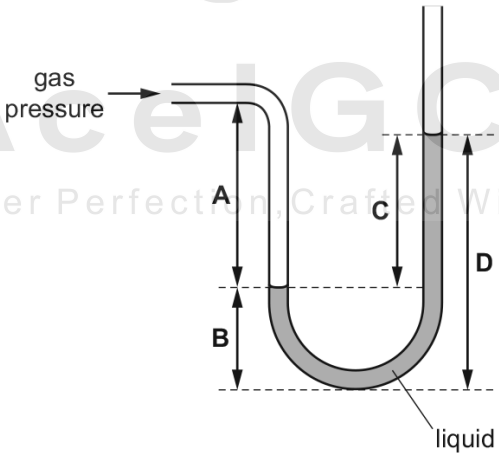
D any of P, Q or R

---

64. 0625_w15_qp_11 Q: 10

The diagram shows a manometer containing a liquid. The manometer is used to find the difference between the pressure of a gas and atmospheric pressure.

Which distance represents this pressure difference?



---

65. 0625_w15_qp_11 Q: 11

Four physics teachers investigate pressure. They wear identical clothes and lie on different beds of nails.

The table gives the weight of each teacher and the total area of contact between the teacher and the nails.

Which teacher experiences the least pressure from the nails?

	weight of teacher / N	total area of contact / cm^2
A	700	13
B	800	20
C	900	14
D	1000	21

---

66. 0625_w15_qp_12 Q: 10

The table gives four forces and the surface area on which each force acts.

Which row gives the largest pressure on the surface?

	force / N	area / m^2
A	20	2
B	40	2
C	20	4
D	40	4

---

67. 0625_w15_qp_12 Q: 11

What does a barometer measure?

A the current in a circuit

B the density of a liquid

C the pressure of air

D the temperature of an object

---

68. 0625_w15_qp_13 Q: 10

A man is in contact with the floor.

In which of these situations does he produce the least pressure on the floor?

A kneeling

B lying flat on his back

C standing on both feet

D standing on one foot

---

69. 0625_w15_qp_13 Q: 11

The water in a lake is at 5 °C. A diver measures the pressure of the water at two different depths in the lake. He repeats the measurements on a different day when the water is at 15 °C.

The density of the water decreases when its temperature increases.

Which combination of depth and temperature produces the greatest water pressure?

	depth / m	temperature / °C
A	10	5
B	10	15
C	20	5
D	20	15

---

70. 0625_s14_qp_11 Q: 10

Which situation is an example of a force acting over a large area to produce a small pressure?

A a builder hammering a nail into a piece of wood

B a cook using a sharp knife to cut vegetables

C a nurse pushing a needle into a patient's arm

D a soldier marching in flat-soled boots

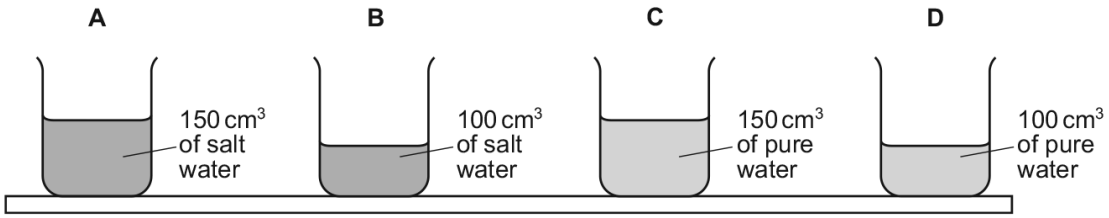
---

71. 0625_s14_qp_11 Q: 11

A student places four identical beakers on a bench.

Two beakers contain salt water of density $1.1\,g/cm^3$ and two beakers contain pure water of density $1.0\,g/cm^3$.

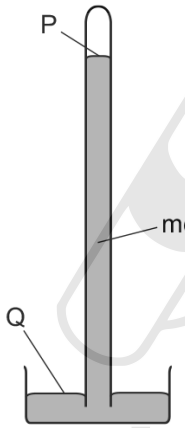
Which beaker exerts the greatest pressure on the bench?



---

72. 0625_s14_qp_12 Q: 10

The diagram shows a simple mercury barometer.



Atmospheric pressure decreases.

What happens to the level of the mercury at P and what happens to the level of the mercury at Q?

	P	Q
A	falls	falls
B	falls	rises
C	rises	falls
D	rises	rises

---

73. 0625_s14_qp_13 Q: 7

Which situation is an example of a force acting over a large area to produce a small pressure?

A a builder hammering a nail into a piece of wood

B a cook using a sharp knife to cut vegetables

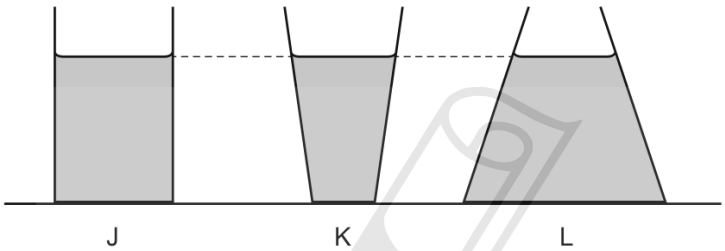
C a nurse pushing a needle into a patient's arm

D a soldier marching in flat-soled boots

---

74. 0625_w14_qp_11 Q: 10

The diagram shows three different containers J, K and L. Each container contains water of the same depth.



Which statement about the pressure of the water on the base of each container is correct?

A The water pressure is greatest in container J.

B The water pressure is greatest in container K.

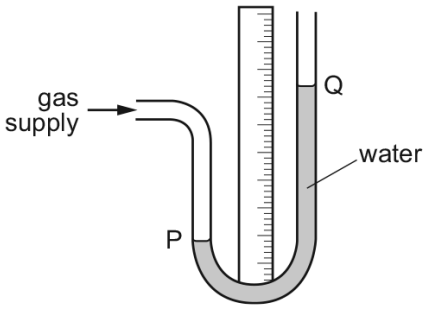
C The water pressure is greatest in container L.

D The water pressure is the same for all three containers.

---

75. 0625_w14_qp_11 Q: 12

A water manometer is connected to a gas supply.



There is a gas leak and the pressure of the gas supply falls.

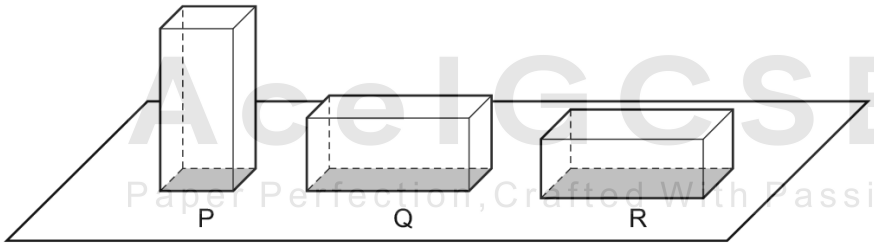
What happens to the water level at P and what happens to the water level at Q?

	water level at P	water level at Q
A	falls	falls
B	falls	rises
C	rises	falls
D	rises	rises

---

76. 0625_w14_qp_13 Q: 11

The scale diagram shows three identical blocks, P, Q and R. The blocks have different areas of contact with the ground.



Which block exerts the greatest pressure on the ground?

A block P

B block Q

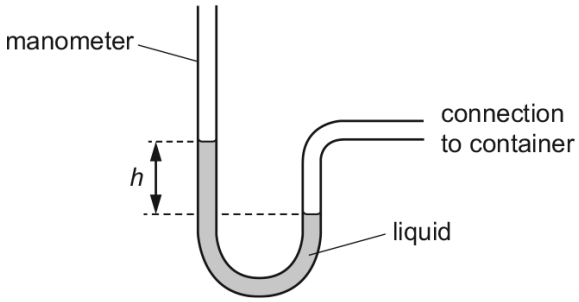
C block R

D they all exert the same pressure

---

77. 0625_w14_qp_13 Q: 12

A manometer is used to measure the pressure of the air in a container.



Which change would give a bigger value of height *h*?

A using a less dense liquid

B using a more dense liquid

C using a narrower tube

D using a wider tube

---

78. 0625_s13_qp_11 Q: 11

A man stands on the ground.

Which action will increase the pressure that the man exerts on the ground?

A The man slowly bends his knees.

B The man slowly lies down on the ground.

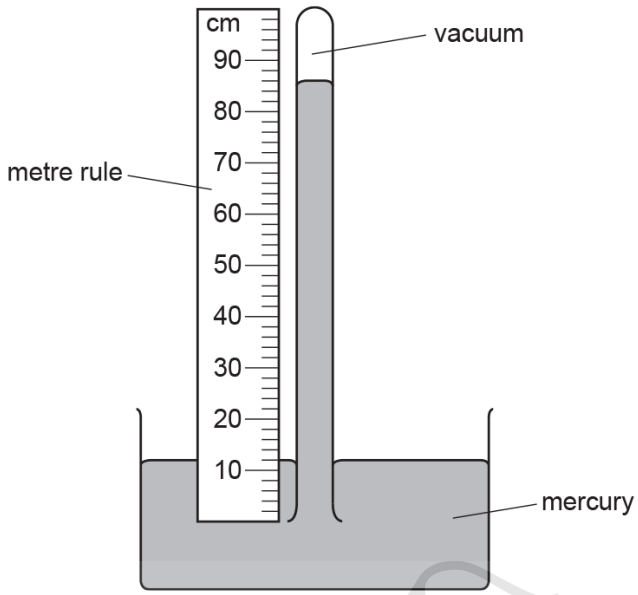
C The man slowly raises his arms.

D The man slowly raises one foot off the ground.

---

79. 0625_s13_qp_11 Q: 12

The diagram shows a simple mercury barometer.

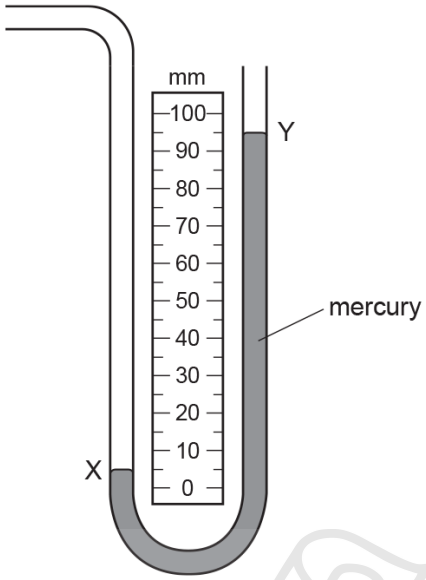


Which length is used to find the value of atmospheric pressure?

A 12 cm **B** 74 cm **C** 86 cm **D** 100 cm

80. 0625_s13_qp_12 Q: 11

A mercury manometer is used to measure a pressure difference. The difference is shown by the levels X and Y in the diagram.



What is the pressure difference represented by X and Y?

A 5 mm of mercury

B 50 mm of mercury

C 90 mm of mercury

D 95 mm of mercury

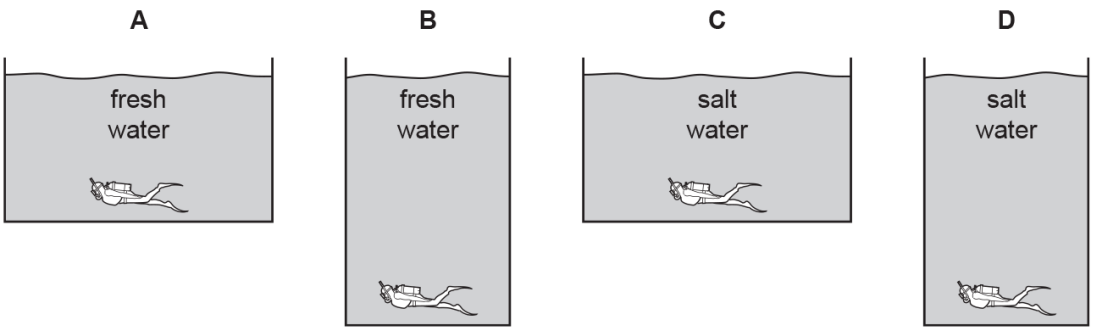
---

81. 0625_w13_qp_11 Q: 12

The diagrams show four divers at the bottom of four different swimming pools.

Two swimming pools contain fresh water and two contain salt water. Fresh water is less dense than salt water.

Which diver feels the least pressure from the water?



---

82. 0625_w13_qp_13 Q: 11

It is dangerous for submarines to dive to very great depths.

Why is it dangerous?

A The density of water is less at greater depths.

B The pressure of water is greater at greater depths.

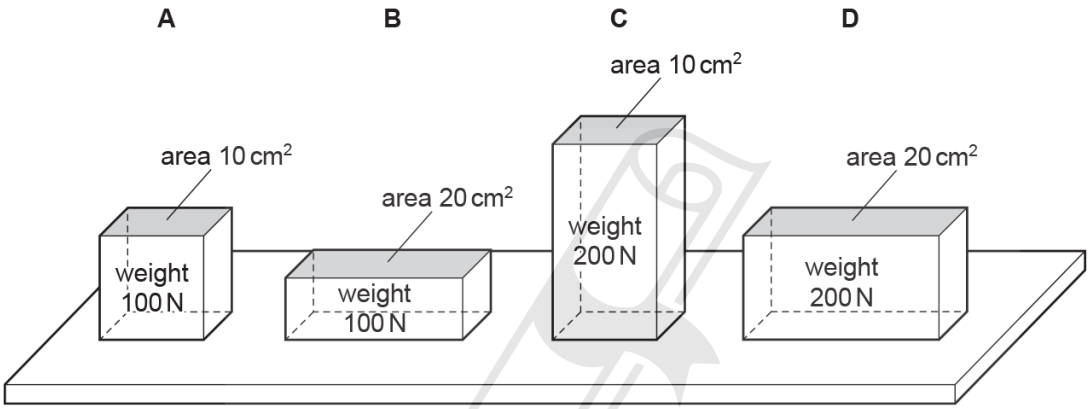
C The temperature of water is higher at greater depths.

D The weight of the submarine is greater at greater depths.

---

83. 0625_w13_qp_13 Q: 12

Which block exerts the greatest pressure on the surface below it?



---

84. 0625_s12_qp_11 Q: 11

Which statement is explained by reference to pressure?

A Objects with greater mass have greater weight.

B One kilogram of water occupies more volume than one kilogram of lead.

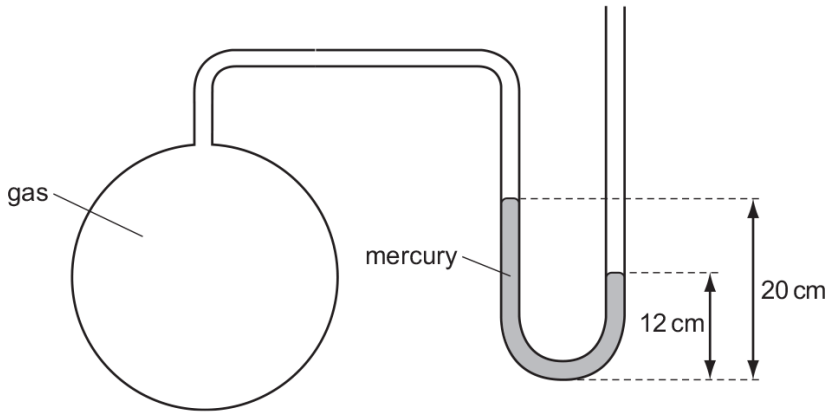
C Spikes on running-shoes sink into the ground.

D Water cooled to a low enough temperature turns to ice.

---

85. 0625_s12_qp_11 Q: 12

The diagram shows a mercury manometer used to measure the pressure of gas in a container.
Atmospheric pressure is 76 cm of mercury.



What is the pressure of the gas?

A 56 cm of mercury

B 68 cm of mercury

C 84 cm of mercury

D 96 cm of mercury

---

86. 0625_s12_qp_12 Q: 11

What does a barometer measure?

A atmospheric density

B atmospheric pressure

C liquid density

D liquid pressure

---

87. 0625_s12_qp_12 Q: 12

In which position would a boy exert the **most** pressure on the ground?

A lying on his back

B sitting down

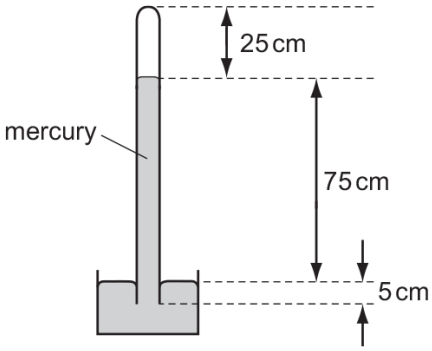
C standing on one foot

D standing on two feet

---

88. 0625_w12_qp_11 Q: 12

The diagram shows a mercury barometer.



Which distance is used to calculate the pressure of the atmosphere?

A 25 cm **B** 75 cm **C** 80 cm **D** 100 cm

---

89. 0625_w12_qp_11 Q: 13

A heavy table has six legs. The area of cross-section of each leg is *X*.

The legs of the table make marks in a carpet. These marks become deeper with increased pressure.

What would reduce the depth of the marks for a table of a fixed weight?

A using three legs, each of an area smaller than *X*

B using four legs, each of an area the same as *X*

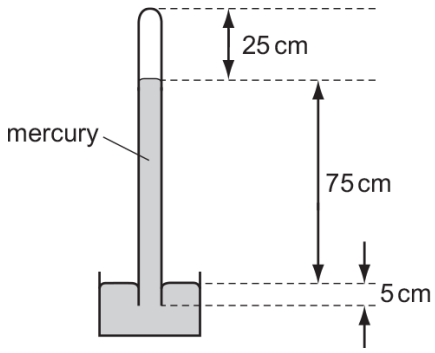
C using six legs, each of an area smaller than *X*

D using eight legs, each of an area the same as *X*

---

90. 0625_w12_qp_12 Q: 8

The diagram shows a mercury barometer.



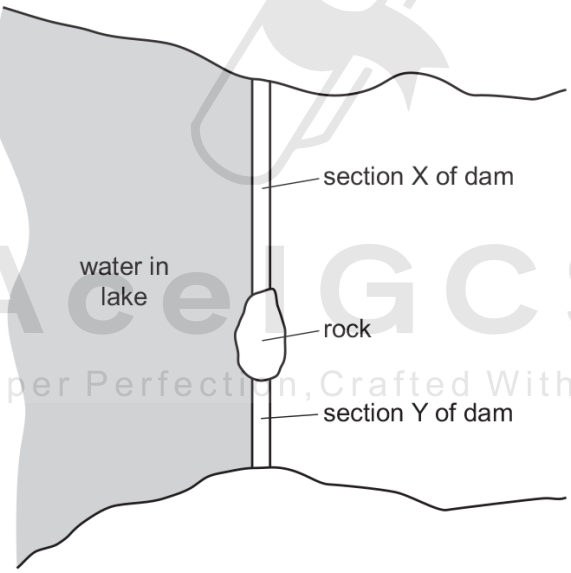
Which distance is used to calculate the pressure of the atmosphere?

A 25 cm **B** 75 cm **C** 80 cm **D** 100 cm

---

91. 0625_w12_qp_13 Q: 13

A dam across a lake is divided into two sections by a rock. Section X is longer than section Y but the two sections are otherwise identical. The water in the lake by the dam is the same depth everywhere. The diagram shows a view from above of the lake and the dam.



The water creates a force on each section of the dam and a pressure on each section of the dam.

Which statement is correct?

A The force on X equals the force on Y.

B The force on X is less than the force on Y.

C The pressure on X equals the pressure on Y.

D The pressure on X is less than the pressure on Y.

SN	Paper	Q. No.	Answer
01	0625_w12_qp_12	13	D
02	0625_w12_qp_13	9	D
03	0625_m22_qp_22	14	B
04	0625_m21_qp_22	12	C
05	0625_m21_qp_22	13	A
06	0625_s21_qp_21	12	D
07	0625_s21_qp_21	13	D
08	0625_s21_qp_22	12	D
09	0625_s21_qp_22	13	C
10	0625_s21_qp_23	12	D
11	0625_s21_qp_23	13	A
12	0625_w21_qp_21	11	A
13	0625_w21_qp_22	11	C
14	0625_w21_qp_23	11	D
15	0625_m20_qp_22	14	D
16	0625_m20_qp_22	15	B
17	0625_p20_qp_20	14	A
18	0625_p20_qp_20	15	D
19	0625_s20_qp_21	12	A
20	0625_s20_qp_21	13	C
21	0625_s20_qp_22	13	C
22	0625_s20_qp_23	13	C
23	0625_w20_qp_21	13	B
24	0625_w20_qp_21	14	C
25	0625_w20_qp_22	13	C
26	0625_w20_qp_22	14	C
27	0625_w20_qp_23	13	B
28	0625_w20_qp_23	14	C
29	0625_m19_qp_22	14	B
30	0625_m19_qp_22	15	D
31	0625_s19_qp_21	13	C
32	0625_w19_qp_21	13	C
33	0625_w19_qp_21	14	B
34	0625_w19_qp_22	15	B
35	0625_m18_qp_22	13	C
36	0625_m18_qp_22	14	B
37	0625_m18_qp_22	15	D
38	0625_s18_qp_21	13	D
39	0625_s18_qp_21	14	D
40	0625_s18_qp_22	13	B
41	0625_s18_qp_23	13	B
42	0625_w18_qp_21	12	A
43	0625_w18_qp_21	13	A
44	0625_m17_qp_22	11	D
45	0625_m17_qp_22	12	B
46	0625_s17_qp_21	13	C
47	0625_s17_qp_23	4	B
48	0625_w17_qp_21	13	B
49	0625_m16_qp_22	12	A

SN	Paper	Q. No.	Answer
50	0625_m16_qp_22	13	D
51	0625_p16_qp_20	15	D
52	0625_s16_qp_21	13	B
53	0625_w16_qp_21	12	D
54	0625_w16_qp_22	13	D
55	0625_w16_qp_23	13	D
56	0625_m15_qp_12	10	D
57	0625_m15_qp_12	11	B
58	0625_s15_qp_11	10	C
59	0625_s15_qp_11	11	C
60	0625_s15_qp_12	10	C
61	0625_s15_qp_12	11	C
62	0625_s15_qp_13	10	D
63	0625_s15_qp_13	11	A
64	0625_w15_qp_11	10	C
65	0625_w15_qp_11	11	B
66	0625_w15_qp_12	10	B
67	0625_w15_qp_12	11	C
68	0625_w15_qp_13	10	B
69	0625_w15_qp_13	11	C
70	0625_s14_qp_11	10	D
71	0625_s14_qp_11	11	A
72	0625_s14_qp_12	10	B
73	0625_s14_qp_13	7	D
74	0625_w14_qp_11	10	D
75	0625_w14_qp_11	12	C
76	0625_w14_qp_13	11	A
77	0625_w14_qp_13	12	A
78	0625_s13_qp_11	11	D
79	0625_s13_qp_11	12	B
80	0625_s13_qp_12	11	C
81	0625_w13_qp_11	12	A
82	0625_w13_qp_13	11	B
83	0625_w13_qp_13	12	C
84	0625_s12_qp_11	11	C
85	0625_s12_qp_11	12	B
86	0625_s12_qp_12	11	B
87	0625_s12_qp_12	12	C
88	0625_w12_qp_11	12	B
89	0625_w12_qp_11	13	D
90	0625_w12_qp_12	8	B
91	0625_w12_qp_13	13	C