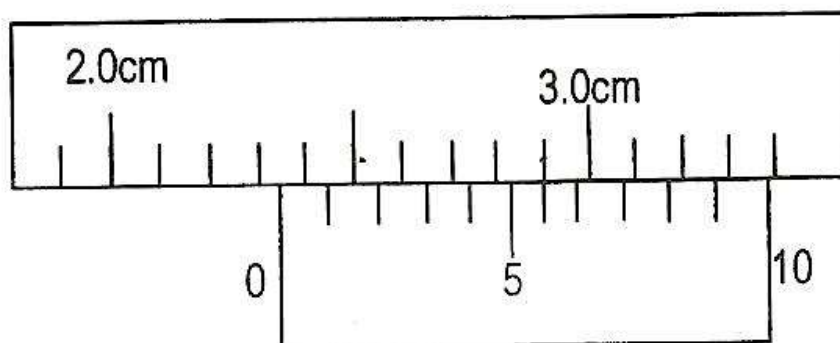


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1. The diagram shows part of a vernier calliper used to measure the width of a rectangular glass block.

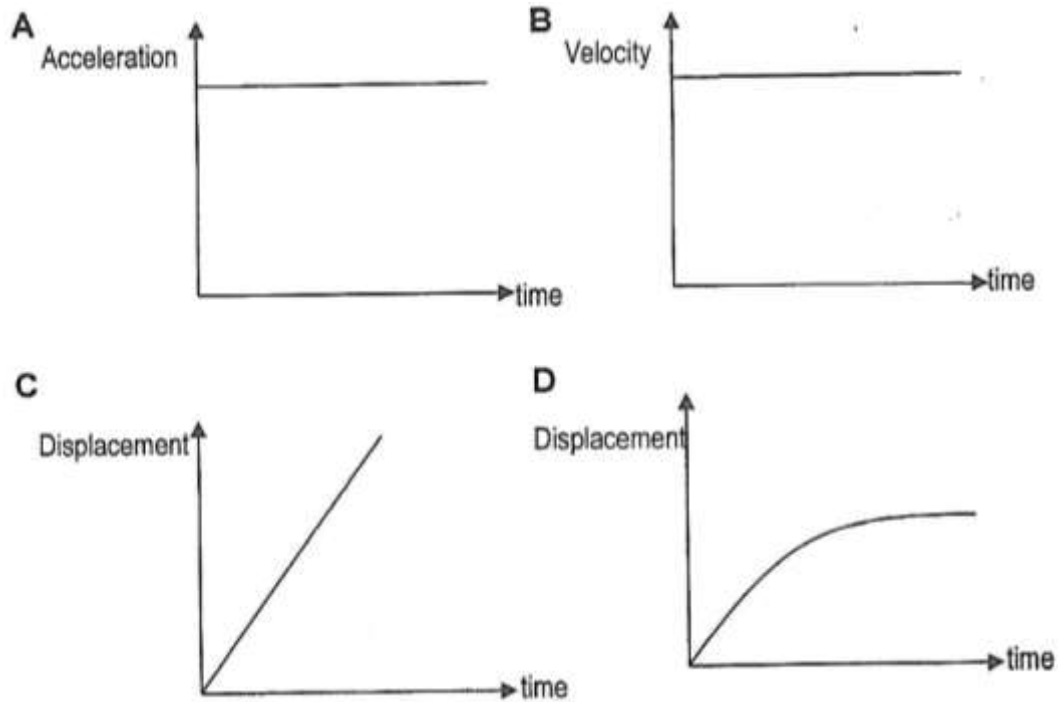


The correct reading is

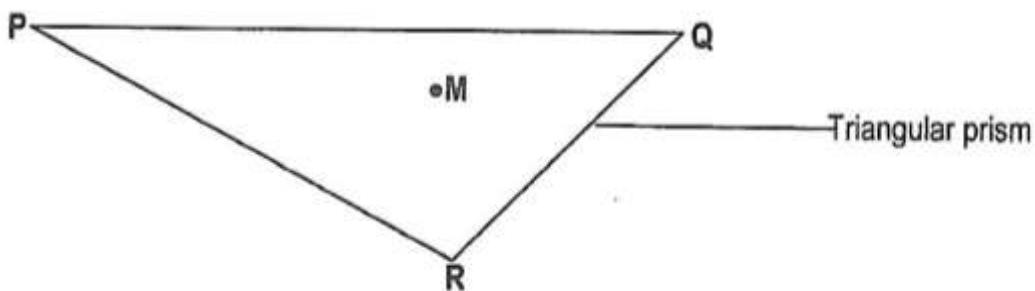
- A. 1.46 cm.
B. 2.25 cm.
C. 2.36 cm.
D. 2.54 cm.
2. Which of the following represents an SI unit?

Name	Symbol
gram	g
second	s
centimetre	cm
kilojoule	kJ

3. Which of the following graphs represents an increasing velocity?



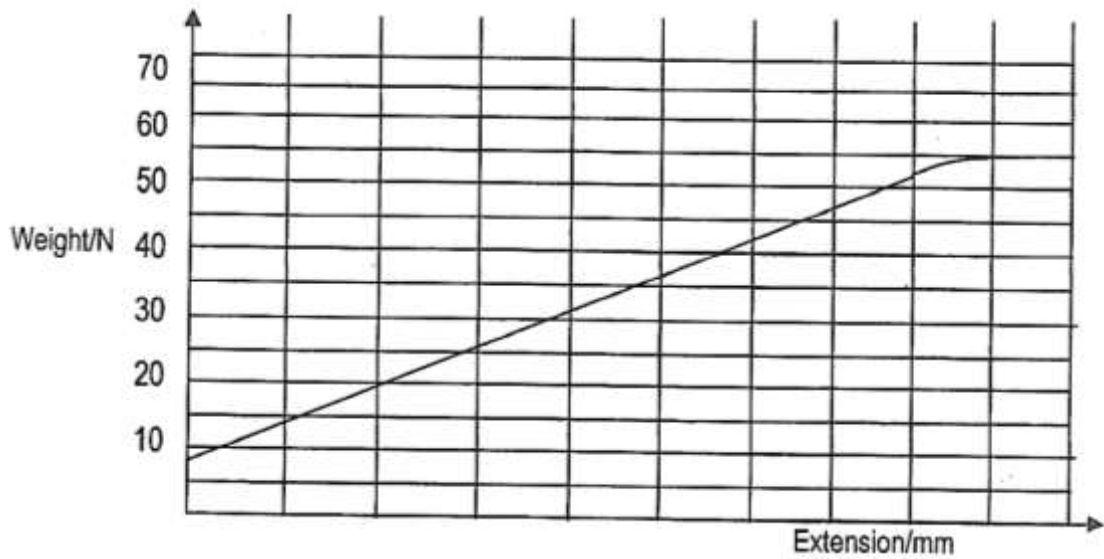
The diagram below shows a cross-section through the centre of a triangular prism. M is the position of the centre of Mass of the prism.



PQ may be considered to have maximum stability because . . .

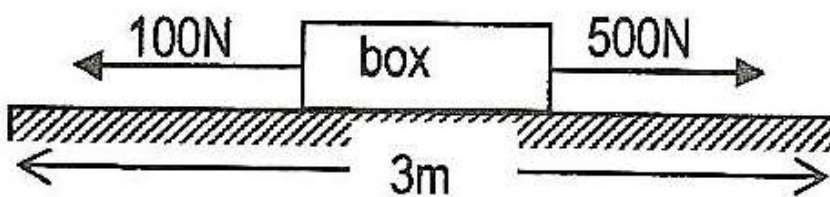
- A. it has the greatest contact base area.
- B. it is above M and far away from R.
- C. the centre of mass M is furthest from point P.
- D. the centre of mass M has the greatest vertical height at this base.

5. The graph below was obtained by a pupil in a physics experiment to investigate the effects of forces on a spring.



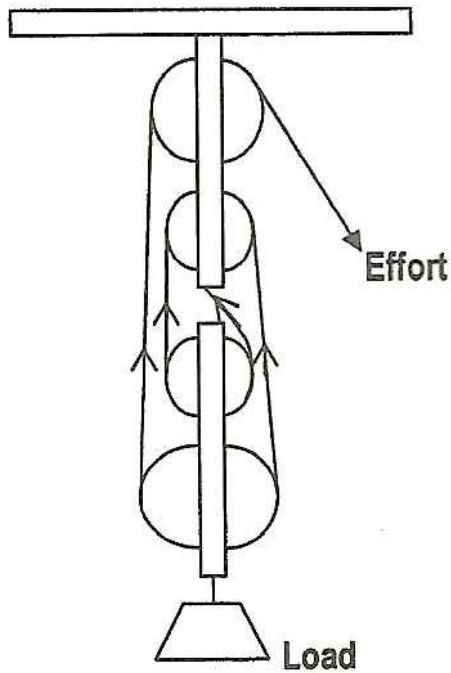
What is the approximate value of the force required to start pulling the turns of the spring away from each other?

- A. 5.0N
 B. 7.5N
 C. 10.0N
 D. 15.0N
6. A person exerts a horizontal force of 500N on a box, which also experiences a friction force of 100N.



How much work is done against friction when the box moves a horizontal distance of 3m?

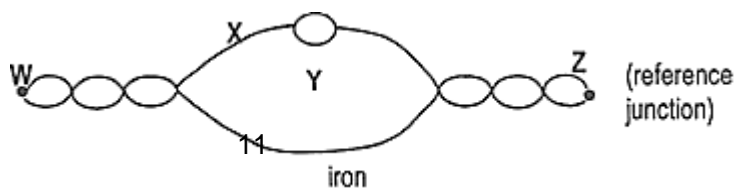
- A. 1800J
 B. 1500J
 C. 1200J
 D. 300J
7. The diagram shows an ideal system of pulleys.



The Mechanical advantage of the system is...

- A. 6
 - B. 5
 - C. 4
 - D. 2
- 8 Heat travels in a solid by conduction. Heat flows from one end of a solid to the other by the...
- A. flow of electrons and convection currents.
 - B. flow of electrons and movement of atoms.
 - C. vibration of atoms and convection currents.
 - D. vibration of atoms and flow of electrons.

- 9 The diagram shows a thermocouple thermometer.

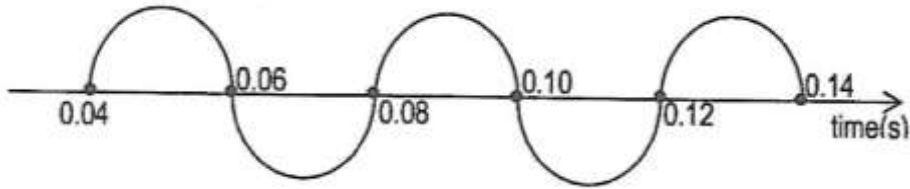


Which of the following is true?

- A. Side W is the cold junction.
- B. Material X is made of iron.

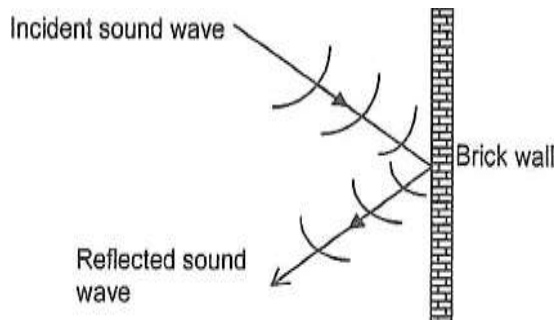
- C. The letter Y represents a thermometer.
- D. The instrument is calibrated at boiling point of water.

10. The diagram below represents a sound wave.



In a space of 120cm there are ten compressions and ten rarefactions. What is the speed of the sound wave?

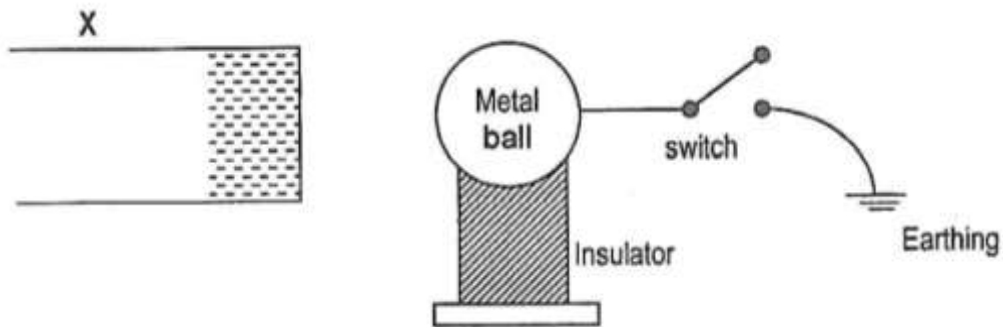
- A. 150cm/s
 - B. 300cm/s
 - C. 340cm/s
 - D. 350cm/s
11. The diagram shows a sound wave reflected from a brick wall.



Compared with the incident wave, the reflected wave has..

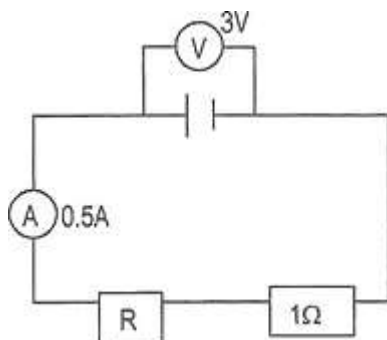
- A. a greater amplitude.
 - B. a shorter wavelength.
 - C. the same speed.
 - D. the same velocity.
12. Which of the following is a property of magnetic field lines?
- A. They run from south pole to north pole.
 - B. They cross each other at the poles.
 - C. They run from north pole to the south pole.
 - D. Magnetic field is weak when they are close.

13. The diagram below shows an experimental set up on electrostatics.



When the switch is closed •••

- A. protons flow from the metal ball to the ground,
 - B. electrons flow from the metal ball to the ground.
 - C. protons flow from the ground to the metal ball.
 - D. electrons flow from the ground to the metal ball.
14. The instrument commonly used for measuring the charge which is passing per second is ...
- A. an ammeter.
 - B. a voltmeter.
 - C. a cathode ray oscilloscope.
 - D. a gold leaf electroscope.
15. The figure below shows a circuit diagram.



The value of the resistor R is ...

- A. 0.5Ω
- B. 1.5Ω
- C. 5.0Ω

D. 6.0Ω

16. What is the cost of running a 750W electric fan for 4 hours and a 2KW heater for 2 hours if electric energy costs K150 per KWh?

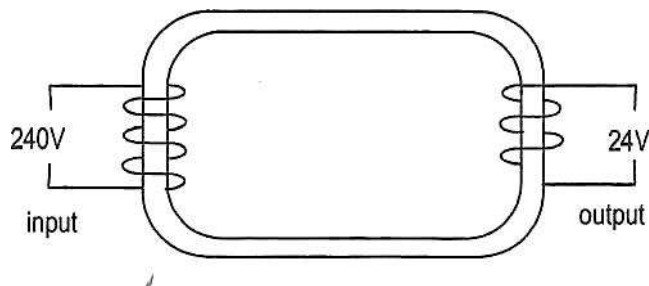
A. K500

B. K650

C. K700

D. K1.050

17. The diagram below shows a transformer used in a laboratory during an experiment.



If 0.2A current flows through the input, the size of current given out at the output is...

A. 0.1 A

B. 0.2A

C. 2.0A

D. 10.0A

18. The brightness of a spot of light on a CRO screen may be changed by varying the potential difference across the ...

A. X-plates.

B. Y-plates.

C. Control grid.

D. glass envelope.

19. The table shows the possible properties of radioactive emissions. Which emission represents an alpha particle?

Emission	Charged	Deflected in magnetic field	Ionising effect
A	Yes	Yes	Weak
B	Yes	No	Weak

C	No	Yes	None
D	No	Yes	None

20. In a fission reactor, which particle causes a Uranium-235 nucleus to split?

- A. Proton
- B. Neutron
- C. Gamma ray
- D. Alpha particle