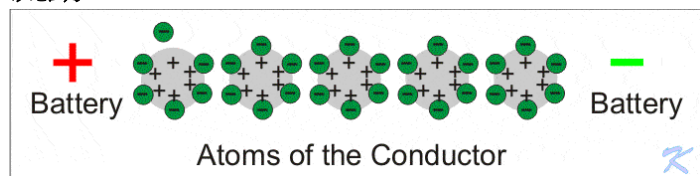
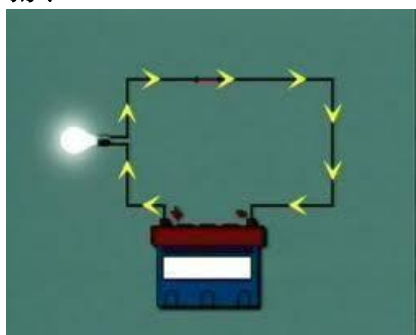


1. What 'flows' in a wire? 什麼在電線中 “流動” ?



- A. Protons 質子 B. Neutrons 中子
C. Atoms 原子 D. Electrons 電子

2. Electromotive Force is the same as... 電動勢等同於...



- A. Voltage 電壓 B. Current 電流
C. Resistance 電阻 D. Wattage 瓦數

3. When is a battery truly dead? 電池什麼時候真正沒電了?



- A. When all the electrons on one side make it to the other side 當一側的所有電子都到達另一側時
B. When there are the same number of electrons on both sides. 當兩邊電子數相同時。
C. When somebody licks it and then there's nothing to live for. So humiliating. 當有人舔它時，就沒有什麼可活的了。太丟人了
D. When it's really cold 當它遇冷的時候

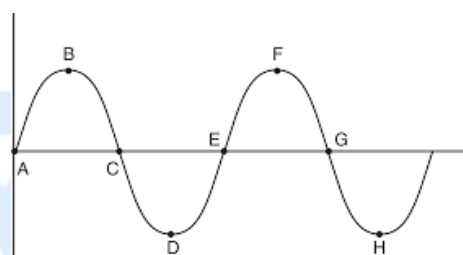
4. Which equation can be rearranged to calculate the the electric current given? 可以重新排列哪個方程來計算給定的電流?

- A. $I = Q \div t$ B. $Q = It$
C. $I = Qt$ D. $I = t \div Q$

5. Sound waves are 聲波是

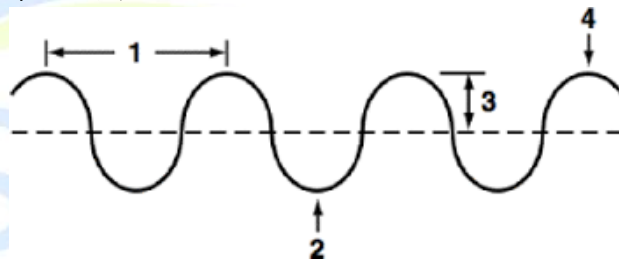
- A. transverse waves. 橫波。
B. longitudinal waves 縱波
C. circular waves. 圓波。
D. polarized waves. 極化波。

6. The crest is in position 波峰就位於



- A. A B. B
C. C D. D

7. Wavelength is measured at position 波長在位置測量



- A. 1 B. 2
C. 3 D. 4

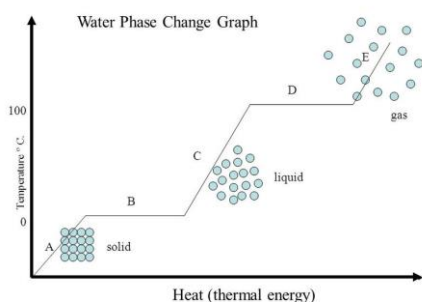
8. What is the transfer of heat by movement of liquids or gases? 什麼是通過液體或氣體的運動傳遞熱量?

- A. Radiation 輻射
B. Convection 對流
C. Conduction 傳導
D. Heat 熱

9. What is the measurement of the average kinetic energy of a substance? 物質的平均動能的量度是什麼?

- A. Kinetic energy 動能
- B. Temperature 溫度
- C. Thermal energy 熱能
- D. Potential energy 勢能

10. When the temperature of matter decreases the particles ... 當物質的溫度降低粒子...



- A. speed up and move farther apart 加速並移動得更遠
- B. speed up and move closer together 加速並靠得更近
- C. slow down and move farther apart 放慢速度並遠離
- D. slow down and move closer together 放慢速度並靠得更近

11. Heat ALWAYS moves from 熱量總是從

- A. Low to High Temperature 低溫到高溫
- B. High to Low Temperature 高溫到低溫
- C. It doesn't move 不動
- D. High to Low Pressure 高壓到低壓

12. A ball of mass 200g falls from a height of 5m. What will be its kinetic energy when it just reaches the ground? $g = 10 \text{ N/kg}$ 一個質量為 200 克(g)的球從高處落下 5 米(m)。它剛到地面時的動能是多少? $g = 10 \text{ 牛頓/千克}$

- A. 100J
- B. 10J
- C. 9.8J
- D. 98J

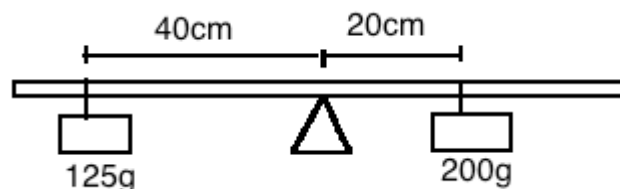
13. A body of mass 50kg has a momentum of 3000 Kg.m/s. Calculate its Kinetic energy and velocity. 質量為 50kg 的物體具有 3000 Kg.m/s 的動量。計算其動能和速度。

- A. 90000J and 60m/s
- B. 900J and 60m/s
- C. 6000J and 630m/s
- D. 90000J and 6m/s

14. The Work Done by the Centripetal Force for a Body Moving in a Circular Path is _____ 做圓周運動的物體向心力所做的功是_____

- A. Negative 負
- B. Zero 零
- C. Constant 恆定
- D. Positive 正

15. The figure shows a uniform metre rule pivoted at the 50cm mark. 125g and 200g weights hang from the rule as shown. Calculate where you would hang a 25g mass in order to balance the rule horizontally 該圖顯示了在 50 厘米標記處旋轉的統一米尺。如圖所示，125 克和 200 克的砝碼懸掛在尺子上。計算您將懸掛 25 克重物的位置，以便水平平衡規則



- A. 20 cm from pivot on the side of 125 g mass 在 125 克質量的一側距樞軸 20 厘米
- B. 10 cm from pivot on the side of 125 g mass 在 125 克質量的一側距樞軸 10 厘米
- C. 40 cm from pivot on the side of 200 g mass 在 200 克質量的一側距樞軸 40 厘米
- D. 10 cm from pivot on the side of 200 g mass 在 200 克質量的一側距樞軸 10 厘米

16. Jack has a weight of 300 N and sits 2.0 m from the pivot of see-saw. Jill has a weight of 450 N and sits 1.5 m from pivot. Who will move down? 傑克有重量為 300 N，距離蹺蹺板的樞軸 2.0 m。吉爾的體重為 450 N，距離樞軸 1.5 m。誰會下移？

- A. Jack 傑克
- B. Jill 吉爾
- C. Both of them 他們倆都是
- D. None of them 他們倆都不是

17. The impulse-momentum theorem states that 脈衝動量定理指出

- A. the impulse on an object is equal to the change in momentum it causes 物體受到的衝量等於它引起的動量變化
- B. the force on a moving object is equal to the magnitude of the impulse. 運動物體所受的力等於衝量的大小。
- C. the impulse on an object is greater than the change in momentum it causes 物體受到的衝量大於它引起的動量變化
- D. the impulse on an object is less than the change in momentum it causes 物體受到的衝量小於它引起的動量變化

18. Army tank tracks are useful for travelling through the mud because.... 陸軍坦克履帶對於在泥濘中行駛很有用，因為.....

- A. they decrease the force the vehicle exerts on the ground 它們減少了車輛施加在地面上的力
- B. they increase the force the vehicle exerts on the ground 它們增加了車輛施加在地面上的力
- C. they decrease the pressure the vehicle exerts on the ground 它們減少了車輛施加在地面上的壓力
- D. they increase the pressure the vehicle exerts on the ground 它們增加了車輛對地面施加的壓力

19. Which of these animals would probably cause the greatest pressure on the ground? 這些動物中哪一種可能會對地面造成最大壓力？

- A. A fat cow with big feet 一頭大腳的肥牛
- B. A fat cow with small feet 肥牛小腳
- C. A calf with big feet 一頭大腳的小牛
- D. A calf with small feet 小腳的小牛

20. If a boomerang is thrown 20 m in a straight line and returns exactly to the spot it was thrown what is its displacement? 如果將迴旋鏢沿直線拋出 20 米並準確返回到拋出點，它的位移是多少？

- A. 20m 米
- B. 40m 米
- C. 0m 米
- D. -20m 米

21. Calculate the quantity of charge, Q , obtained when a current of 35 amps runs for 2 minute in C? 計算當 35 安培的電流在 C 中運行 2 分鐘時獲得的電荷量 Q ？

Answer (in number) 答案 (數字) :

22. What is the Average Power Required to Lift a Mass of 100kg to a Height of 50m in 50 Seconds in Watt? $g=10 \text{ N/kg}$

Write answer in number

在 50 秒內將 100kg 的質量提升到 50m 的高度所需的平均功率是多少瓦特？ $g=10 \text{ 牛頓/千克}$
用數字寫答案

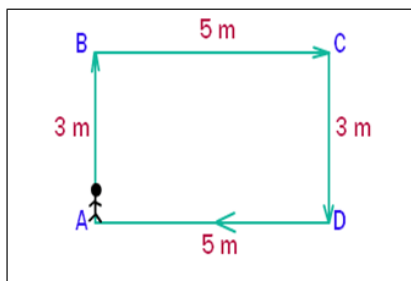
Answer (in number) 答案 (數字) :

23. Find the distance: Sara walks from A to B, B to C then C to D in meter?

Write just answer in number.

計算距離：Sara 從 A 步行到 B，B 到 C，然後從 C 到 D，以米為單位？

只回答數量。。



Answer (in number) 答案（數字）：_____

24. Jack is pushing a box containing his gift for his Valentine. The box accelerates at a rate of 5ms^{-2} when Bob applies a force of 30N.

Assuming he is pushing on a frictionless surface, how heavy is the box containing his gift in kg?

Write just answer in number.

傑克推著一個盒子，裡面裝著他送給情人的禮物。當 Bob 施加 30N 的力時，盒子以 5ms^{-2} 的速度加速。

假設他在無摩擦的表面上推動，以公斤為單位，裝有他禮物的盒子有多重？

只寫數字答案。

Answer (in number) 答案（數字）：_____

25. A golf ball accelerates off a tee at 10 m/s^2 , changing its velocity from 30 m/s to 120 m/s down the fairway. How long did it take the golf ball to accelerate in second?

高爾夫球以 10 m/s^2 的速度離開發球檯，沿球道的速度從 30 m/s 變為 120 m/s 。高爾夫球以秒為單位加速需要多長時間？

Answer (in number) 答案（數字）：_____