

Shagaf

Physics Mid

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1-the distance of a particle is given by $x = A(t)^3 + B(t)^4$, where x in meter and t in second

unit for the constant B . is ?

- a.m/s
- b.m/ s³
- c. m/s²
- d.m/s⁴

answer:d

2-If the magnitude of vector A is 15 m and makes an angle of 60° with the x -axis and

vector is $B = 12x + 12y$, what is the direction of $2A - B$?

- a.86
- b.80
- c.78
- d.63

answer:c

3-a particle moving along the x axis starts from the rest to a speed of 12m/s in 10s find the acceleration?

- a. 0.8 m/s²
- b. 1.2 m/ s²
- c. 1.6 m/s²
- d. 2 m/ s²

answer:b

4-If the velocity of a particle is constant, then the acceleration is:

- a.zero
- b. not zero
- c. need more information
- d. not constant

answer:a

5-A ball is kicked (ركلت) from the ground level (مستوى الأرض) velocity 80 m/s at an angle of 30° to the horizontal direction. When does it reach its maximum height?

- a.2s
- b.3s
- c.1.5s
- d.4s

answer:d

6-A ski jumper (متزلج) leaves a slope(منحدر) at an angle of 40° to the horizontal direction.

She lands(هبطت) 3.5 s later at a point 20 m below her tak off point (نقطة الانطلاق) Her initial (ابتدائية) speed was

- a. 18.3 m/s
- b. 34.4 m/s
- c.15.4m/s
- d. 23.6 m/s

answer:a

7- A 6 kg block is at rest on an inclined plane (سطح مائل) of an angle 30° . What is the force exerted by the inclined plan on the block?

- a. 17.3 N
- b. 51.9 N
- c.34.6 N
- d. 69.3 N

answer:b

8- A particle starts from the origin at $t=0$ with a velocity of $8y$ m/s and moves in the xy plane with a constant acceleration of $(4x + 2y)$ m/s². At the instant the x coordinate of the particle is 29 m, what is the value of it y coordinate?

- a. 90 m
- b. 60 m
- c.45 m
- d. 75 m

answer:c

9-A force of 10 N is applied to a block of mass 4 kg. find the acceleration of the block?

- a. 2 m/s?
- b. 5 m/s²
- c.10 m/s²
- d.2.5m/s²

answer:d

10 - A vector of magnitude 20, makes an angle 20 with the y -axis. Find its x -component?

- a. 17
- b. 6.8
- c. 3.4
- d. 5

answer :b

11-A child pulls (يسحب) a toy (لعبة) car with a 10N force at a 20 angle to the horizontal. If the car moves a distance of 10m. how much work does the child do?

- a. 75J
- b, 94J
- c.56J
- d. 113 J

answer:b

12 - woman pushes (تدفع) a toy car initially at rest by exerting (تؤثر) constant horizontal force of magnitude 5 N, the car moves 1 m. If the mass of the car is 0.4 kg. What is its final speed?

- a. 7.1 m/s
- b. 4.5 m/s
- c. 5.8 m/s
- d. 5.0 m/s

answer:d

13-A boy on a sled (زلجة) slides (ينزلق) from the rest down a hill (تلة) of height 30m, coming to a stop 10 m above his lowest point. If his mass is 70 kg, how much mechanical energy has been lost

- ?
a. 1.4×10^4 J
- b. 1.0×10^4 J
- c. 1.2×10^4 J
- d. 1.6×10^4 J

answer:a

14-A car must do a power of 10 kw to keep a constant speed of 100 m/s on flat (ارض) (مستوية) ground. What is the friction force due to the ground?

- a. 200 N
- b. 50 N
- c.100 N
- d. 400 N

answer:c

دَبَبْتَ لِلْمَجْدِ وَالسَّاعُونَ قَدْ بَلَغُوا
جَهْدَ النُّفُوسِ وَأَلْقُوا دُونَهُ الْأَزْرَأَ

وَكَابِدُوا الْمَجْدَ حَتَّى مَلَّ أَكْثَرُهُمْ
وَعَانَقَ الْمَجْدَ مَنْ أَوْفَى وَمَنْ صَبْرًا

