NORTHWEST TERRITORIES PHYSICS 11 (MPH--11) · UNIT B · 25 QUESTIONS

Dynamics: Forces and Motion — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Newton first law says an object keeps its motion unless**

A it gets tired

B it is on a slope

C a net force acts on it

D its mass changes

Understand It with Pulse | Flag a mistake

2

A box is pushed east with 10 N and west with 6 N. The net force is

A 4 N west

B 16 N east

C 4 N east

D 16 N west

Understand It with Pulse

Flag a mistake

3 **A 5 kg cart accelerates at 3 m per s squared. The net force, in newtons, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A net force of 20 N acts on a 4 kg block. The acceleration, in metres per second squared, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A 10 kg bag rests on the ground. Using g = 9.8 m per s squared, its weight, in newtons, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **Kinetic friction on a sliding block acts**

A in the direction of motion

B opposite to the motion

C upward

D downward

Understand It with Pulse | Flag a mistake

7 **Force components are 12 N horizontally and 5 N vertically. The magnitude of the force, in newtons, is**

A 5

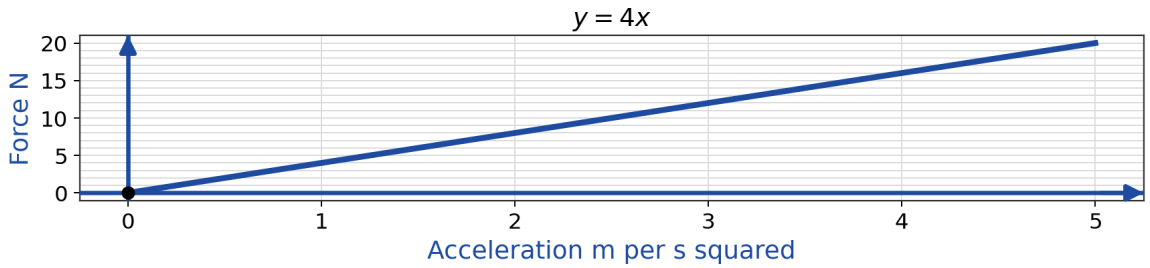
B 12

C 13

D 17

Understand It with Pulse | Flag a mistake

8 **The graph shows force against acceleration for a 4 kg object. The force at an acceleration of 3 m per s squared, in newtons, is**



A 12

B 6

C 9

D 15

Understand It with Pulse

Flag a mistake

9 **A block rests on a table. In its free body diagram, the force that balances its weight is the**

A friction force

B applied force

C tension

D normal force

Understand It with Pulse | Flag a mistake

10 **A 3 kg ball moves at 8 m per s. Its momentum, in kilogram metres per second, is ____**



ANSWER

Understand It with Pulse | Flag a mistake

11 **A 20 N force acts on a puck for 3 s. The change in momentum, in kilogram metres per second, is ____**



ANSWER _____

Understand It with Pulse | Flag a mistake

12 **Newton third law says action and reaction forces are**

A equal and on the same object

B unequal and opposite

C equal and in the same direction

D equal, opposite, and on different objects

Understand It with Pulse | Flag a mistake

13 **A 50 N weight block sits on a ramp of height 3 m and length 5 m. The component of weight along the ramp, in newtons, is ____**



ANSWER

Understand It with Pulse | Flag a mistake

14

Friction between two surfaces generally increases when

A the surfaces get smoother

B the normal force increases

C the speed increases

D the mass decreases

Understand It with Pulse

Flag a mistake

15 **A 30 N force east and a 12 N force west act on a 6 kg sled. The acceleration, in metres per second squared, is ____**



ANSWER _____

Understand It with Pulse | Flag a mistake

16 **Inertia depends most directly on an object**

A speed

B mass

C velocity

D volume

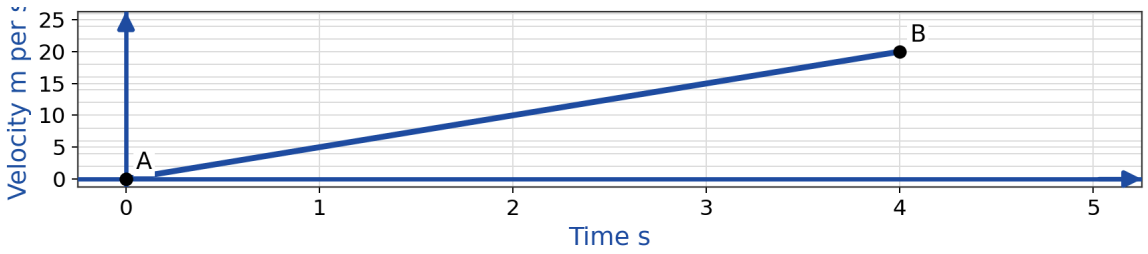
Understand It with Pulse | Flag a mistake

17 **A 2 kg load in a lift accelerates upward at 2 m per s squared. Using g = 9.8 m per s squared, the cable tension, in newtons, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **The graph shows velocity against time for a sled. The acceleration, in metres per second squared, is**



- **A** 2
- **B** 4
- **C** 5
- **D** 8

Understand It with Pulse | Flag a mistake

19 **An object moves at a constant velocity. The net force on it is**

- **A** zero
- **B** east
- **C** west
- **D** increasing

Understand It with Pulse | Flag a mistake

20 **With a friction force of 0.4 times the normal force, and a normal force of 50 N, the friction force, in newtons, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **Momentum is conserved in a collision when there is no**

A net external force

B friction

C motion

D applied force

Understand It with Pulse | Flag a mistake

22 **A 4 kg cart moves at 5 m per s toward a stationary 2 kg cart. The total momentum before impact, in kilogram metres per second, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **A 10 N braking force acts on a 5 kg trolley. The magnitude of its acceleration, in metres per second squared, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A block is pulled east across a table. In its free body diagram, the force that points west is**

A the normal force

B friction

C gravity

D the applied force

Understand It with Pulse | Flag a mistake

25 **A 8 kg crate accelerates at 2.5 m per s squared. The net force, in newtons, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	C	**10.**	24	**19.**	A
2.	C	**11.**	60	**20.**	20
3.	15	**12.**	D	**21.**	A
4.	5	**13.**	30	**22.**	20
5.	98	**14.**	B	**23.**	2
6.	B	**15.**	3	**24.**	B
7.	C	**16.**	B	**25.**	20
8.	A	**17.**	23.6		
9.	D	**18.**	C		

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