NOVA SCOTIA PHYSICS 11 · UNIT B

Forces and Force Vectors, Newtons Laws, Friction and Inclined Planes — Practice Test

Nova Scotia Physics 11 • 25 questions

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 **A kettlebell with a mass of 10 kilograms on Earth , where g = 10 metres per second squared , has weight , in newtons , of**



ANSWER

Understand It with Pulse | Flag a mistake

2 **A net force acts on a mass of 10 kilograms giving acceleration 2 metres per second squared. The net force, in newtons, is**

ANSWER

Understand It with Pulse | Flag a mistake

3 **A net force of 20 newtons acts on a mass of 10 kilograms. Its acceleration, in metres per second squared, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A 2 kilogram mass is pulled by a 10 newton force against 4 newtons of friction. The net force, in newtons, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **Friction opposes**



A gravity only

B mass

C speed only

D motion

Understand It with Pulse | Flag a mistake

6 **A force vector can be split into components that are**

- A perpendicular to each other
- B parallel only
- C equal always
- D zero always

Understand It with Pulse | Flag a mistake

7 **A free body diagram shows**

- A all objects in a room
- B motion only
- C energy only
- D forces acting on one object

Understand It with Pulse | Flag a mistake

8 **A net force of zero means an object in motion continues at**

- A increasing speed
- B decreasing speed
- C rest only
- D constant velocity

Understand It with Pulse | Flag a mistake

9 **A resultant force is the single force that has the same effect as**

- A one force only
- B friction only
- C gravity only
- D several forces together

Understand It with Pulse | Flag a mistake

10 **A scale in an elevator accelerating upward reads more because the normal force is**

- A less than weight
- B greater than weight
- C equal to weight
- D zero

Understand It with Pulse | Flag a mistake

11 **Action and reaction forces act on**

- A different objects
- B the same object
- C the ground only
- D the air only

Understand It with Pulse | Flag a mistake

12 **Inertia is the tendency of an object to resist a change in its**

A mass

B colour

C motion

D temperature

Understand It with Pulse | Flag a mistake

13 **Kinetic friction is usually slightly less than maximum**

A normal force

B weight

C static friction

D applied force

Understand It with Pulse | Flag a mistake

14 **Mass differs from weight because mass does not depend on**

A matter

B gravity

C volume

D density

Understand It with Pulse | Flag a mistake

15 **Newton first law states that an object stays at rest or in uniform motion unless acted on by a**



A net force

B mass

C speed

D distance

Understand It with Pulse | Flag a mistake

16 **Newton second law states that net force equals mass times**

A velocity

B acceleration

C distance

D time

Understand It with Pulse | Flag a mistake

17 **Newton third law states that for every action there is an equal and**

A greater reaction

B mass

C opposite reaction

D speed

Understand It with Pulse | Flag a mistake

18 **On a slope, the component of weight parallel to the slope pulls an object**

- **A** up the slope
- **B** down the slope
- **C** off the slope
- **D** sideways only

Understand It with Pulse | Flag a mistake

19 **A large rock with a mass of 20 kilograms on Earth , where g = 10 metres per second squared , has weight , in newtons , of**



ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A net force acts on a mass of 5 kilograms giving acceleration 4 metres per second squared. The net force, in newtons, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A net force of 30 newtons acts on a mass of 5 kilograms. Its acceleration, in metres per second squared, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A 4 kilogram mass is pulled by a 20 newton force against 8 newtons of friction. The net force, in newtons, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **A mass of 5 kilograms on Earth , where g = 10 metres per second squared , has weight , in newtons , of**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A net force acts on a mass of 20 kilograms giving acceleration 3 metres per second squared. The net force, in newtons, is**

ANSWER

Understand It with Pulse | Flag a mistake

25 **A net force of 40 newtons acts on a bowling ball with a mass of 8 kilograms. Its acceleration, in metres per second squared, is**



ANSWER

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	100	**10.**	B	**19.**	200
2.	20	**11.**	A	**20.**	20
3.	2	**12.**	C	**21.**	6
4.	6	**13.**	C	**22.**	12
5.	D	**14.**	B	**23.**	50
6.	A	**15.**	A	**24.**	60
7.	D	**16.**	B	**25.**	5
8.	D	**17.**	C		
9.	D	**18.**	B		

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