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

Energy, Work and Power — 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 **Energy is best described as the ability to**

- A move fast
- B stay still
- C make heat only
- D do work

Understand It with Pulse | Flag a mistake

2 **A 2 kg ball moves at 6 m per s. Its kinetic energy, in joules, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A 3 kg book sits 4 m above the floor. Using g = 9.8 m per s squared, its gravitational potential energy, in joules, is ____**



ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A 20 N force pushes a box 5 m along the floor. The work done, in joules, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A motor does 200 J of work in 10 s. The power, in watts, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A machine has useful output 80 J from an input of 200 J. The efficiency, in percent, is _____**

ANSWER _____

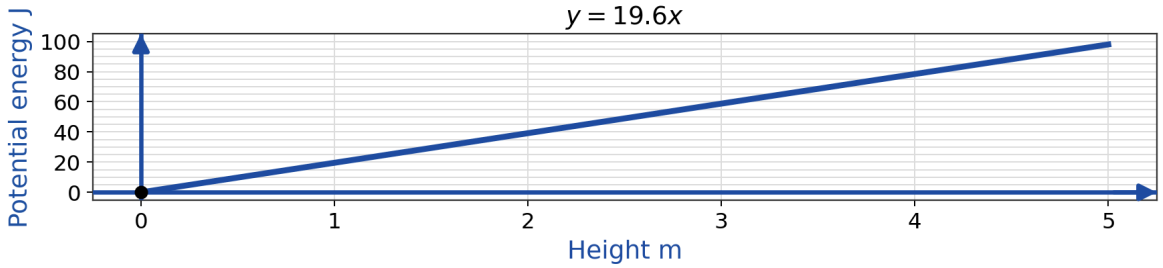
Understand It with Pulse | Flag a mistake

7 **In a closed system, the total energy**

- **A** increases over time
- **B** decreases over time
- **C** stays the same
- **D** becomes zero

Understand It with Pulse | Flag a mistake

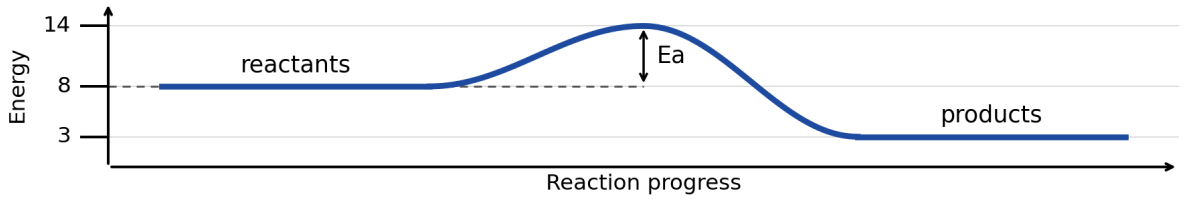
8 **The graph shows potential energy against height for a 2 kg object with g = 9.8 m per s squared. The potential energy at 3 m, in joules, is**



- **A** 19.6
- **B** 39.2
- **C** 58.8
- **D** 78.4

Understand It with Pulse | Flag a mistake

9 **The energy diagram shows reactants at 8 units and products at 3 units. The energy released, in the same units, is**



- **A** 3
- **B** 5
- **C** 6
- **D** 11

Understand It with Pulse | Flag a mistake

10 **When a force acts at a right angle to the motion, the work done by that force is**

- **A** zero
- **B** maximum
- **C** negative
- **D** doubled

Understand It with Pulse | Flag a mistake

11 **A 2 kg ball drops 5 m, losing gravitational potential energy. Using g = 9.8 m per s squared, and ignoring air resistance, the kinetic energy gained, in joules, is ____**

ANSWER

Understand It with Pulse | Flag a mistake

12 **A crane lifts a 5 kg load 2 m in 7 s. Using g = 9.8 m per s squared, the power, in watts, is ____**



ANSWER

Understand It with Pulse | Flag a mistake

13 **A heater has useful output 125 J from an input of 500 J. The efficiency, in percent, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **The unit of power is the**

A joule

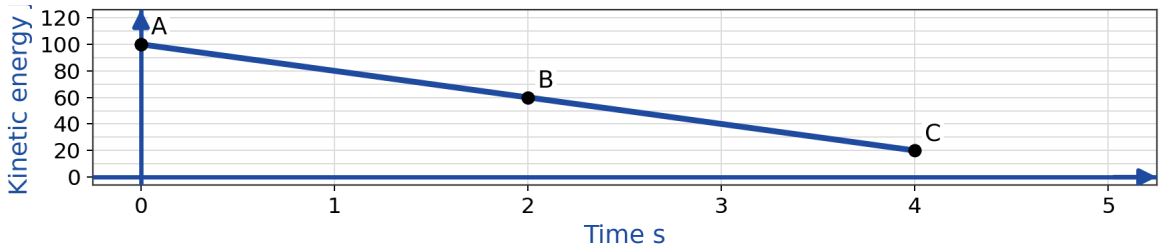
B newton

C watt

D kilogram

Understand It with Pulse | Flag a mistake

15 **The graph shows kinetic energy against time for a slowing cart. The kinetic energy at 2 s, in joules, is**



- **A** 100
- **B** 60
- **C** 20
- **D** 80

Understand It with Pulse | Flag a mistake

16 **A 10 kg kettlebell is 2.5 m above the ground. Using g = 9.8 m per s squared, its gravitational potential energy, in joules, is _____**



ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A 4 kg cart moves at 5 m per s. Its kinetic energy, in joules, is _____**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **As an object is lifted higher, its gravitational potential energy**

A decreases

B stays the same

C increases

D becomes zero

Understand It with Pulse | Flag a mistake

19 **A 30 N friction force acts over a distance of 4 m. The work done against friction, in joules, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **A diver stands on a bent diving board, holding it down. The energy stored in the bent board is**



A kinetic energy

B elastic potential energy

C thermal energy

D sound energy

Understand It with Pulse | Flag a mistake

21 **An object has kinetic energy 200 J and mass 4 kg. Its speed, in metres per second, is ____**

ANSWER

Understand It with Pulse | Flag a mistake

22 **As a basketball falls, its energy is transformed from**



A kinetic to gravitational potential

B gravitational potential to kinetic

C sound to kinetic

D thermal to gravitational potential

Understand It with Pulse | Flag a mistake

23 **A 20 N force moves an object at 3 m per s in the force direction. The power, in watts, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A real machine is less than 100 percent efficient mainly because**

A some energy is wasted as heat

B energy is destroyed

C it moves too slowly

D it uses too much force

Understand It with Pulse | Flag a mistake

25 **An object has kinetic energy 30 J and gravitational potential energy 70 J. The total mechanical energy, in joules, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. D
2. 36
3. 117.6
4. 100
5. 20
6. 40
7. C
8. C
9. B
10. A
11. 98
12. 14
13. 25
14. C
15. B
16. 245
17. 50
18. C
19. 120
20. B
21. 10
22. B
23. 60
24. A
25. 100

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