PHYSICS 111-112 · NEW BRUNSWICK

Physics 111-112
Practice Test

Unit C: Work and Energy: Transformation and Conservation

25 Questions

Original practice test based on the New Brunswick curriculum. Work through each question, then check your answers at the end.

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.

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Question 1

A force of 20 newtons pushes a crate 5 metres in the direction of the force. The work done, in joules, is

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Question 2

A mass *of* 2 kilograms *is* 5 metres high , with $g = 10$ metres *per* second squared . *Its* gravitational potential energy , *in* joules , *is*

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Question 3

A mass of 2 kilograms moves at 3 metres per second. Its kinetic energy, in joules, is

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Question 4

Work of 100 joules is done in 5 seconds. The power, in watts, is

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Question 5

An electric motor takes in 200 joules and gives 160 joules of useful output. Its efficiency, in percent, is

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Question 6

A machine with 80 percent efficiency wastes

A) 80 percent of input energy

B) all input energy

C) 20 percent of input energy

D) no input energy

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Question 7

As a falling object loses height, its potential energy is transformed mainly into

A) chemical energy

B) kinetic energy

C) nuclear energy

D) sound only

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Question 8

Conservation of energy states that energy cannot be created or destroyed, only

A) lost completely

B) doubled

C) stored as mass only

D) transformed

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Question 9

Efficiency compares useful output energy to

A) time

B) total input energy

C) mass

D) force

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Question 10

Elastic potential energy is stored in a

A) moving car

B) hot object

C) stretched spring

D) battery only

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Question 11

Gravitational potential energy depends on mass, height, and

A) speed

B) time

C) gravitational field strength

D) temperature

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Question 12

Kinetic energy depends on mass and

A) height only

B) speed ^{2}

C) time only

D) force only

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Question 13

Power is the rate of doing

A) work

B) force

C) motion

D) heat only

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Question 14

The unit of energy is the

A) watt

B) newton

C) kilogram

D) joule

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Question 15

The unit of power is the

A) watt

B) joule

C) newton

D) metre

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Question 16

Work is done when a force causes

A) displacement in its direction

B) mass only

C) time only

D) temperature change only

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Question 17

A force of 10 newtons pushes an object 8 metres in the direction of the force. The work done, in joules, is

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Question 18

A mass *of* 4 kilograms *is* 3 metres high , with $g = 10$ metres *per* second squared . *Its* gravitational potential energy , *in* joules , *is*

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Question 19

A mass of 4 kilograms moves at 5 metres per second. Its kinetic energy, in joules, is

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Question 20

A cyclist does 200 joules of work in 10 seconds. The power, in watts, is

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Question 21

A machine takes in 500 joules and gives 400 joules of useful output. Its efficiency, in percent, is

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Question 22

A force of 50 newtons pushes an object 4 metres in the direction of the force. The work done, in joules, is

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Question 23

A mass *of* 10 kilograms *is* 2 metres high , with $g = 10$ metres *per* second squared . *Its* gravitational potential energy , *in* joules , *is*

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Question 24

A mass of 1 kilograms moves at 10 metres per second. Its kinetic energy, in joules, is

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Question 25

Work of 300 joules is done pulling a wagon in 6 seconds. The power, in watts, is

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ANSWER KEY

1.	100	**10.**	C	**18.**	120
2.	100	**11.**	C	**19.**	50
3.	9	**12.**	B	**20.**	20
4.	20	**13.**	A	**21.**	80
5.	80	**14.**	D	**22.**	200
6.	C	**15.**	A	**23.**	200
7.	B	**16.**	A	**24.**	50
8.	D	**17.**	80	**25.**	50
9.	B				

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