Phys Sci
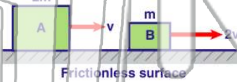
Name_____ Class_____ Date_____

1 The diagram below shows block *A*, having mass 2m and speed v, and block *B* having mass m and speed 2v.

Compared to the kinetic energy of block *A*, the **kinetic energy of block *B* is**

A the same
B twice as great
C one-half as great
D four times as great

2m [A] →v   m [B] →2v

Frictionless surface

2 A **40-kilogram** student runs up a staircase to a floor that is **5.0 meters higher** than her starting point in **7.0 seconds**. The student's **power output** is

A 29 W
B 280 W
C 1.4×10^3 W
D 1.4×10^4

3 When a box of beakers was dropped, the beakers broke into many pieces. Dropping the box a second time could **not** cause the pieces to reform into the original beakers

4 How much **work** is done on a downhill skier by an average **braking force of** 9.8×10^2 **newtons** to stop her in a distance of
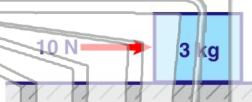
5

PREVIEW

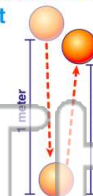Please Sign In or Sign Up to download the printable version of this worksheet

7 How much **power** is required to move the box **8.0 meters** in **2.0 seconds**?
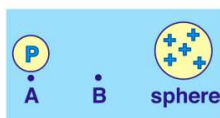
A 40 W
B 20 W
C 15 W
D 12 W

10 N → [3 kg]

bounces back to a height of **0.80 meter**. The **mechanical energy lost** by the ball as it bounces is

A 0.080 J
B 0.20 J
C 0.30 J
D 0.78 J

9 The diagram below shows **proton *P*** located at point *A* near a positively charged sphere.

If 6.4×10^{-19} joule of work is required to **move** the proton from point *A* to point *B*, the **potential difference** between *A* and *B* is

P [A]   • B   [+++] sphere
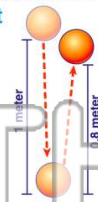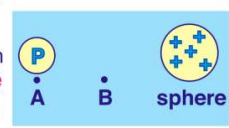
A 6.4×10^{-19} V
B 4.0×10^{-19} V
C 6.4 V
D 4.0 V

10 An object moving at a constant speed of **25 meters per second** possesses **450 joules** of kinetic energy. What is the object's **mass**?
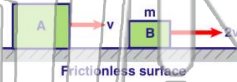
A 0.72 kg
B 1.4 kg
C 18 kg
D 36 kg

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Compared to the kinetic energy of block *A*, the kinetic energy of block *B* is

A the same
B twice as great
C one-half as great
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2m A →v   m B →2v
Frictionless surface

B

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A 29 W
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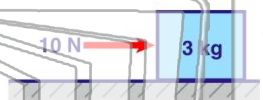
D

5

C

7 How much **power** is required to move the box **8.0 meters** in **2.0 seconds**?

A 40 W
B 20 W
C 15 W
D 12 W

10 N → 3 kg

A

**8** bounces back to a height of **0.80 meter**. The mechanical energy **lost** by the ball as it bounces is

A 0.080 J
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D 0.78 J

B

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If 6.4×10^{-19} joule of work is required to **move** the proton from point *A* to point *B*, the **potential difference** between *A* and *B* is

P •A   •B   sphere

A 6.4×10^{-19} V
B 4.0×10^{-19} V
C 6.4 V
D 4.0 V

D

10 An object moving at a constant speed of **25 meters per second** possesses **450 joules** of kinetic energy. What is the object's **mass**?

A 0.72 kg
B 1.4 kg
C 18 kg
D 36 kg

B