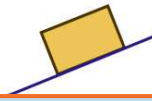




Name _____ Class _____ Date _____

- 1 If the **sum of all the forces** acting on a moving object is **zero**, the object will
- A slow down and stop
 - B change the direction of its motion
 - C accelerate uniformly
 - D continue moving with constant velocity

- 3 The diagram below shows a block sliding down a plane inclined at **angle θ** with the horizontal. As **angle θ** is **increased**, the **coefficient of kinetic friction** between the bottom surface of the block and the surface of the incline will



- A decrease
- B increase
- C remain the same
- D double

- 2 A net force of **10 newtons** accelerates an object at **5.0 meters per second²**. What **net force** would be required to **accelerate** the same object at **1.0 meter per second²**?
- A 1.0 N
 - B 2.0 N
 - C 5.0 N
 - D 50. N

- 4 A **10-newton force** is required to hold a stretched spring **0.20 meter** from its rest position. What is the **potential energy** stored in the stretched spring?

- A 1.0 J
- B 2.0 J
- C 5.0 J
- D 10.0 J



PREVIEW

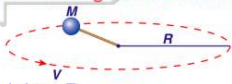
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- 7
- A remains the same
 - B is doubled
 - C is halved
 - D is quadrupled



- C repulsion between nucleons
- D attraction between nucleons

- 9 A ball of **mass M** at the end of a string is swung in a horizontal circular path of **radius R** at **constant speed V** . Which combination of changes would require the **greatest increase in the centripetal force** acting on the ball?
- A doubling V and doubling R
 - B doubling V and halving R
 - C halving V and doubling R
 - D halving V and halving R



- 10 A box is **pushed toward the right** across a classroom floor. The **force of friction** on the box is **directed toward** the
- A left
 - B right
 - C ceiling
 - D floor





ANSWER KEY

If the **sum of all the forces** acting on a moving object is **zero**, the object will

- A** slow down and stop
- B** change the direction of its motion
- C** accelerate uniformly
- D** continue moving with constant velocity

(d)

A net force of **10 newtons** accelerates an object at **5.0 meters per second²**. What **net force** would be required to **accelerate** the same object at **1.0 meter per second²**?

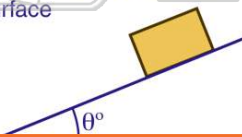
- A** 1.0 N
- B** 2.0 N
- C** 5.0 N
- D** 50. N

(b)

The diagram below shows a block sliding down a plane inclined at **angle θ** with the horizontal.

As **angle θ** is **increased**, the **coefficient of kinetic friction** between the bottom surface of the block and the surface of the incline will

- A** decrease
- B** increase



(c)

A **10-newton force** is required to hold a stretched spring **0.20 meter** from its rest position. What is the **potential energy** stored in the stretched spring?

- A** 1.0 J
- B** 2.0 J
- C** 5.0 J
- D** 50. J



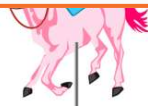
(a)



PREVIEW

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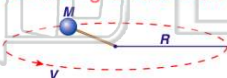
- B** is doubled
- C** is halved
- D** is quadrupled



- D** attraction between nucleons

A ball of **mass M** at the end of a string is swung in a horizontal circular path of **radius R** at **constant speed V** . Which combination of changes would require the **greatest increase in the centripetal force** acting on the ball?

- A** doubling V and doubling R
- B** doubling V and halving R
- C** halving V and doubling R
- D** halving V and halving R



(b)

A box is **pushed toward the right** across a classroom floor. The **force of friction** on the box is **directed toward the**

- A** left
- B** right
- C** ceiling
- D** floor



(a)