

Kingdom of Saudi Arabia

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

المملكة العربية السعودية

Ministry of higher Education

وزارة التعليم العالي

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جامعة الإمام محمد بن سعود الإسلامية

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Semester/Year: quiz (2)

Duration: 30 second

الشعبة	الرقم الجامعي	اسم الطالبة

Question	1	2	3	4	5	6	7	8	9	10	11	12	13
Answer													

Answer (Question 11) :

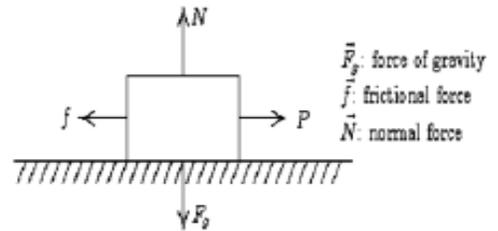
Choose the correct answer and write the letter on it in the table :

1- A force of 80 N gives an object of unknown mass acceleration 20 m/s^2 . What is the mass in kg unit?

- A. 2 kg
- B. 3 kg
- C. 4 kg
- D. 5 kg

2- A boy pulls (P) a wooden box 10 Kg along a rough horizontal floor at **constant speed** 2 m/s as shown in the diagram , f is the magnitude of the friction force , where 0.1 is the coefficient of friction force . Which of the following must be true:

- A. $N = 98 \text{ N}$, $P = + 9.8 \text{ N}$
- B. $N = 98 \text{ N}$, $p = - 9.8 \text{ N}$
- C. $N = 98 \text{ N}$, $p = + 29.8 \text{ N}$
- D. $N = 98 \text{ N}$, $P = - 29.8 \text{ N}$

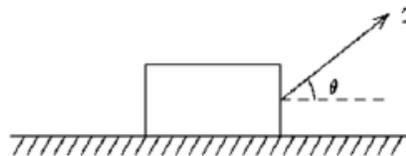


3- According to Newton's second law of motion, acceleration is proportional to force. That means a larger force

- A. produces a smaller acceleration.
- B. doesn't affect acceleration.
- C. produces a smaller mass.
- D. produces a larger acceleration.

4- A block of mass m is pulled at **constant velocity** along a rough horizontal floor by an applied force T as shown. The magnitude of the frictional force is:

- A. $T \cos\theta$
- B. $T \sin\theta$
- C. Zero
- D. Mg



5- 20. The unit of force called the newton is:

- A. $9.8\text{kg} \cdot \text{m/s}^2$
- B. $1 \text{ kg} \cdot \text{m/s}^2$
- C. defined by means of Newton's third law
- D. 1 kg of mass

6- A book rests on a table, exerting a downward force on the table. The reaction to this force is:

- A. the force of Earth on the book
- B. the force of the table on the book
- C. the force of Earth on the table
- D. the force of the book on Earth

7- When a certain force is applied to the standard kilogram its acceleration is 5.0m/s^2 . When the same force is applied to another object its acceleration is one-fifth as much. The mass of the object is:

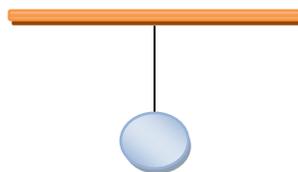
- A. 0.2kg
- B. 0.5kg
- C. 1.0kg
- D. 5.0kg

8- Mass different from weight in that:

- A. all objects have weight but some lack mass
- B. weight is a force and mass is not
- C. the mass of an object is always more than its weight
- D. mass can be expressed only in the metric system

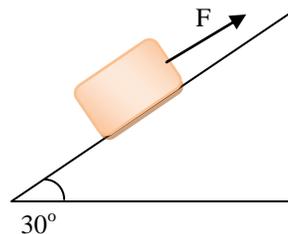
9- A 400-N steel ball is suspended by a light rope from the ceiling. The tension in the rope is:

- A. 400N
- B. 800N
- C. zero
- D. 200N

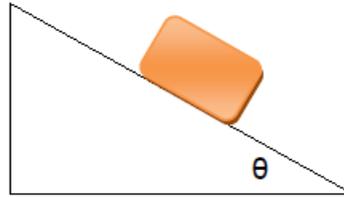


10- A 32-N force, parallel to the incline, is required to push a certain crate at **constant velocity** up a frictionless incline that is 30° above the horizontal. The mass of the crate is:

- A. 3.3kg
- B. 3.8kg
- C. 5.7kg
- D. 6.5kg

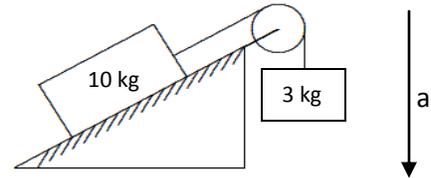


- 11- The figure below shows an object of mass m starts from rest and slides along a rough inclined plane which makes an angle θ with the horizontal. Show the free body diagram :



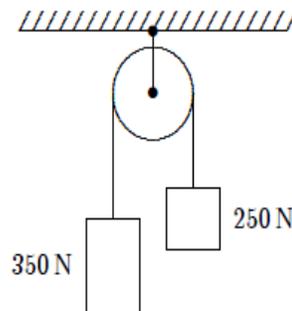
- 12- Block A, with a mass of 10 kg, rests on a 30° incline. The coefficient of kinetic friction is 0.20. The attached string is parallel to the incline and passes over a massless, frictionless pulley at the top. Block B, with a mass of 3.0 kg, is attached to the dangling end of the string. The acceleration of B is:

- A. $+ 0.20 \text{ m/s}^2$
- B. $- 0.20 \text{ m/s}^2$
- C. $+ 2.8 \text{ m/s}^2$
- D. $- 2.8 \text{ m/s}^2$



- 13- Two blocks, weighing 250N and 350 N, respectively, are connected by a string that passes over a massless pulley as shown. The tension in the string is:
assume ($g = 10 \text{ m/s}^2$)

- A. 210 N
- B. 290 N
- C. 406 N
- D. 410 N



14- Consider two Blocks, Block A = 2Kg , and Block B = 3Kg, connected with a weightless string through a weightless and frictionless pulley as shown in the figure. Block A is on a table which is horizontal . Let g be the acceleration of gravity. Assume the masses are static. What is the friction force f on Block A from the table

