QUIZ / Mechanics - Force

NAME DATE CLASS PERIOD

Put a check ✓ in the o next to the correct answer.

1. **Which response best defines a force?**
   - **o A motion**
   - **o A momentum**
   - **o A type of work**
   - **o Conservation of energy**
   - o An expense of energy
2. **Given a gravitational constant of 9.81 m/s², a robot with a mass of 50 kg has a weight of what?**
   - o 490.5 N
   - **o 510.3 N**
   - **o 510.3 lb**
   - **o 495 N**
   - **o 485.6 N**
3. **Given a gravitational constant of 32.2 ft/s², a robot that weighs 644 lb has a mass of what?**
   - o 20 slugs
   - **o 22 slugs**
   - **o 22 kg**
   - **o 200 slugs**
   - **o 20 kg**
4. **The coefficient of static friction between a plastic block and a wood table top is μ_s=0.3. The normal force exerted by the table on the block is 20 lb. If motion is emanate, what is the force of friction?**
   - o 6 lb
   - **o 8 lb**
   - **o 8 N**
   - **o 0.6 lb**
   - **o 0.6 slugs**
5. **Friction is caused by ...**
   - **o Rough surfaces**
   - **o Atomic bonds**
   - o Both of the above
   - **o None of the above**
   - **o Motion**

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6. **A spring has an unstretched length of 1 foot, and has a spring constant of 0.6 lb/ft. It is stretched to a foot and a half. At this instant, what is the spring force, to the nearest tenth?**

   o 0.3 lb

   o 6 lb

   o 6 N

   o 1.6 lb

   o 1.6 slugs

7. **Of these groupings of quantities, which group is entirely comprised of non forces?**

   o Mass, gravity, friction

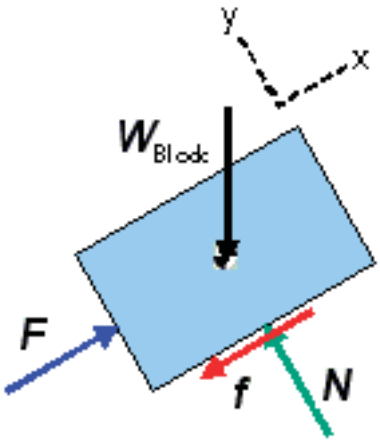
   o Friction, spring constant, normal

   o 32.2 ft/s^2, mass, friction

   o 32.2 ft/s2, mass, spring constant

   o Gravity, 32.2 ft/s^2, mass

8. **In the free-body diagram (FBD) shown, the force *N* represents what kind of force?**



   o Reaction force

   o Weight force

   o Friction force

   o Mass force

   o Spring force

9. **Which of the following represents a unit of force?**

   o Slugs

   o Foot•pounds (ft•lb)

   o Feet / second•(ft/s)

   o Newtons

   o Fathoms

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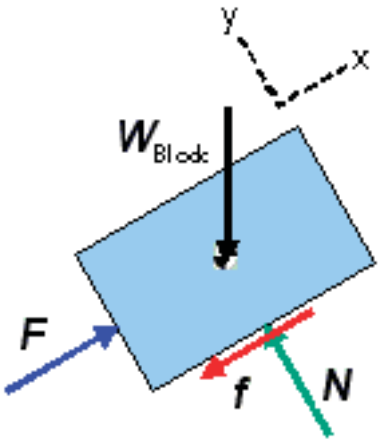
10. In the free-body diagram (FBD) shown, the force *f* represents what kind of force?



o Reaction force

o Weight force

o Friction force

o Spring force

o Mass force