Name: **Friction Problems 2** **Period**

1. A 0.50-kilogram puck sliding on a horizontal shuffleboard court is slowed to rest by a frictional force of 1.2 newtons. What is the coefficient of kinetic friction between the puck and the surface of the shuffleboard court?

   A) 0.24 B) 0.42 C) 0.60 D) 4.1

2. An 80-kilogram skier slides on waxed skis along a horizontal surface of snow at constant velocity while pushing with his poles. What is the horizontal component of the force pushing him forward?

   A) 0.05 N B) 0.4 N
   C) 40 N D) 4N

3. A car's performance is tested on various horizontal road surfaces. The brakes are applied, causing the rubber tires of the car to slide along the road without rolling. The tires encounter the greatest force of friction to stop the car on

   A) dry concrete B) dry asphalt
   C) wet concrete D) wet asphalt

4. What is the magnitude of the force needed to keep a 60.-newton rubber block moving across level, dry asphalt in a straight line at a constant speed of 2.0 meters per second?

   A) 40. N B) 51 N
   C) 60. N D) 120 N

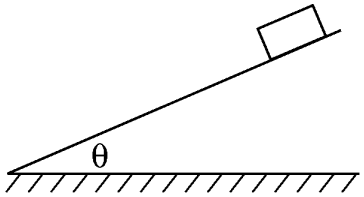
5. Compared to the force needed to start sliding a crate across a rough level floor, the force needed to keep it sliding once it is moving is

   A) less B) greater
   C) the same

6. 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

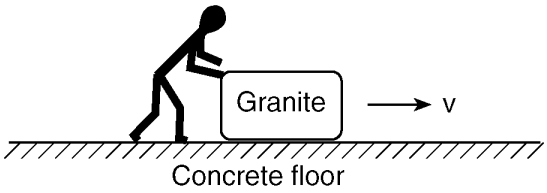
7. The diagram below shows a block sliding down a plane inclined at angle θ with the horizontal.



   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

8. The diagram below shows a granite block being slid at constant speed across a horizontal concrete floor by a force parallel to the floor.



   Which pair of quantities could be used to determine the coefficient of friction for the granite on the concrete?

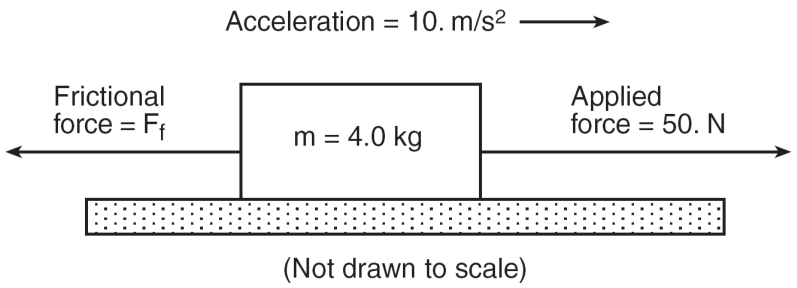
   A) mass and speed of the block
   B) mass and normal force on the block
   C) frictional force and speed of the block
   D) frictional force and normal force on the block

9. When a 12-newton horizontal force is applied to a box on a horizontal tabletop, the box remains at rest. The force of static friction acting on the box is

   A) 0 N
   B) between 0 N and 12 N
   C) 12 N
   D) greater than 12 N

Friction Problems 2

10. The diagram below shows a 4.0-kilogram object accelerating at 10. meters per second^2 on a rough horizontal surface.



What is the magnitude of the frictional force F_f acting on the object?

A) 5.0 N B) 10. N C) 20. N D) 40. N