

Physics
Group Quiz 4.3 - Friction

Name _____

Show your work, round to about three digits total, circle your answers, and label them with units.

Label every force **right** or **left**; Label every acceleration as either **accel** - speeding up or **decel** - slowing down

A 6.50 kg block of wood has a kinetic coefficient of friction of 0.170 and a static of 0.410 between it and the level floor.

0. Calculate the **kinetic friction force**, and the **maximum static friction force**. If the block were at rest, and you exerted a force to the right of 30.0 N, **would the block begin to move?** What if the force was 20.0 N? Support your answer with numbers.

1. If the block is sliding to the left, and I exert a force of 13.5 N to the left, what is the acceleration of the block?

2. If the block is sliding to the right, and I exert a force of 5.60 N to the right, what is the acceleration of the block?

3. If the block is sliding to the left, and accelerating to the left at 3.85 m/s/s, what must be the outside force acting on the block?

4. If the block is sliding to the right, but is decelerating at 4.15 m/s/s, what must be the outside force acting on the block?