

Solve any three of the following five problems. (15 pts.)

Rubric: Showing the givens and hidden givens (1 pt.)

Showing the correct formula (1 pt.)

Plugging in correct given data (1 pt.)

Correct answer (1 pt.)

Correct units on answer and answer circled or highlighted. (1 pt.)

1. A steel block is dragged across a table at a constant velocity with a force of 20N. If the coefficient of friction is 0.20, what does the block weigh?
2. A 1200 kg car starting at rest accelerates uniformly to 27 m/s in 5 seconds. What force does the engine exert on the car?
3. A mass is hung over a pulley (like in the factors that affect acceleration lab) and is used to pull a 5.0 kg block, and the coefficient of friction is found to be 0.4. Calculate the force of friction?
4. A steel block is dragged across a table at a constant velocity with a force of 20N. If the coefficient of friction is 0.20, what is the mass of the steel block on Earth?
5. An object moving 75 km/hr is traveling how fast in m/s?



$f = \mu N$ since $N = w$ $f = \mu w$

so $w = \frac{f}{\mu} = \frac{20N}{0.20} = 100N$



$F = ma$ need a

$a = \frac{(v_f - v_i)}{t} = \frac{27m/s - 0m/s}{5s} = 5.4m/s^2$

1.

2.