

SPH3U - Gr 11 Physics

Exam Review Day 3

A 8.4 kg object is being pushed along a surface, causing it to accelerate at a rate of 1.8 m/s^2 .

The coefficient of kinetic friction is 0.32.

What is the magnitude of the horizontal force being applied to push the object?

A 75.0 kg person is standing on a bathroom scale inside an elevator.

The scale is calibrated in Newtons and measures the Normal force experienced by the person standing on the scale.

(a) What is the reading on the scale when the elevator is rising at a constant velocity of 4 m/s?

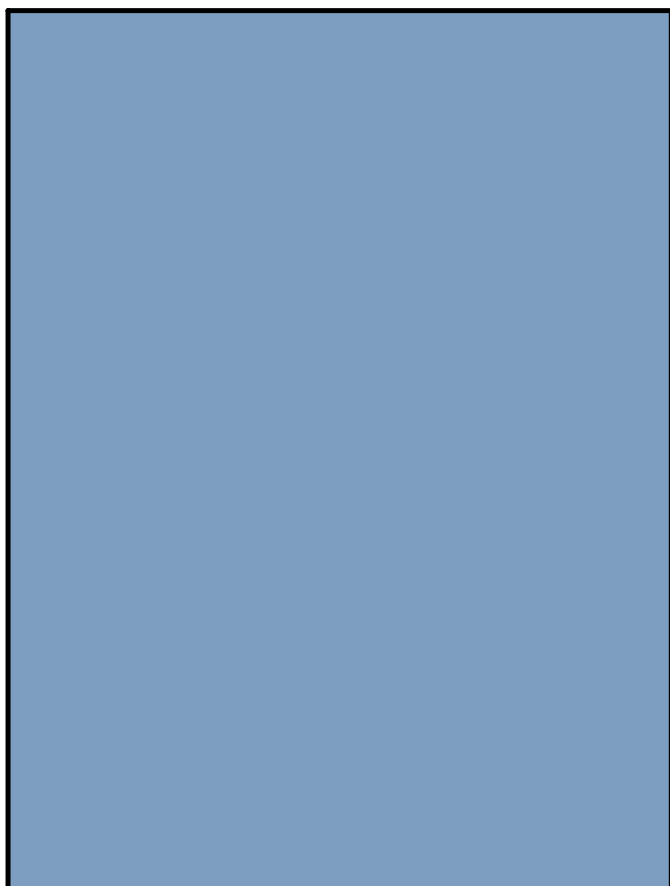
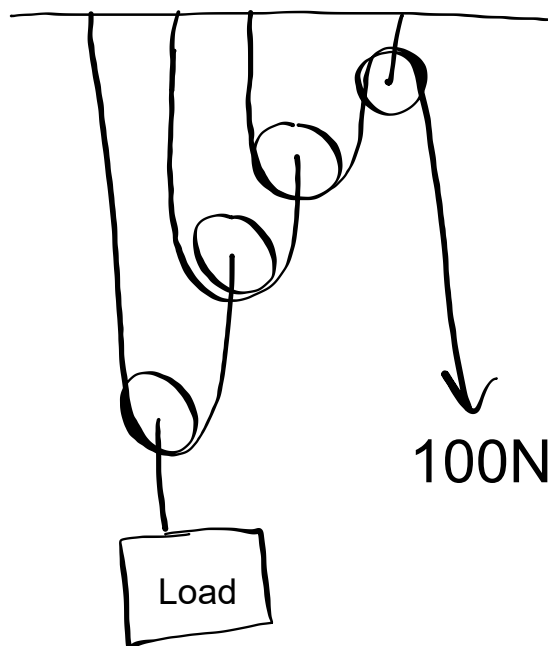
(b) What is the reading on the scale if the elevator is accelerating downward at 1.9 m/s^2 ?

A boat sails 3km @ 40 degrees, then turns and sails 5km at S10°E, and finally sails 6km due West.

What is the distance travelled?

What is the net displacement?

What is the maximum load that the 100N applied force can lift?



A 900W electric pump is 90% efficient. If the pump runs for 3 minutes, what mass of water can be pumped to a height of 2m?

What is the coefficient of static friction for a 95kg object that “slips” when a horizontal force of 180N is applied to it?

The speed of a wave on a string with a fixed end and a free end is 380 m/s.

The frequency of the wave is 480.0 Hz.

What length of string is necessary to produce a standing wave with the *second* harmonic?

In the circuit in **Figure 13**, $V_{\text{source}} = 15 \text{ V}$, $V_1 = 9.0 \text{ V}$, $I_3 = 500.0 \text{ mA}$, and $R_2 = 30.0 \Omega$. (11.5, 11.9) T/I

- (a) What are R_3 and I_2 ?
- (b) How long does it take for 20.0 C of charge to pass through the circuit?

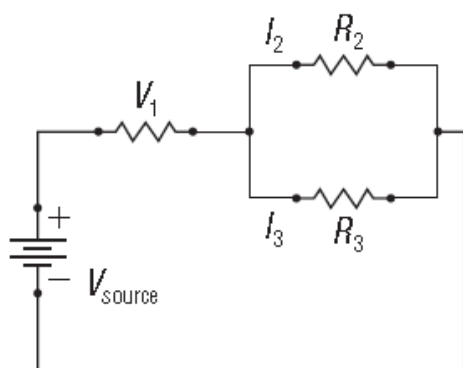


Figure 13