Power

Choosing a Motor: An elevator with a (combined) load of 2000 kg is to be lifted over a vertical distance of 21 m in 7 s, at a constant velocity. What power motor is needed to accomplish this?

Up the Stairs: Three students run up the stairs in the time shown. Which student has the largest power output?

Pulling a wagon: The girl pulls the wagon with a constant force of 200 N at an angle of 40° above the horizontal. If her speed is 2 m/s, the power of her pull is closest to…?

Power out of a motor: A factory uses a motor and a cable to drag a 300 kg machine to the proper place on the factory floor. The cable makes an angle $\theta = 15°$ with the floor. What power must the motor supply to drag the machine at a speed of 0.50 m/s? The coefficient of friction between the machine and the floor is 0.60.