2.8 Force and Work

1. Calculate the work done by a 47 N force pushing a pencil 0.26 m.

2. How much work is it to lift a 20 kg sack of potatoes vertically 6.5 m?

3. A crane that loads ships must exert a force of 24 550 N on a crate and lift it 22.00 m. How much work is done on the crate?

4. A weight lifter does 420 J of work to lift a barbell a height of 0.35 m. What force did the weight lifter exert on the barbell?

5. A farmer exerts a force of 12.00 N on a wheelbarrow. When the farmer has used 7198 J of energy how far has he pushed the wheelbarrow?

6. Sally has a car that accelerates at 5.000 m/s^2. If the car has a mass of 1000 kg, how much force does the car produce?

7. What is the mass of a truck if it produces a force of 14 000 N while accelerating at a rate of 5.000 m/s^2?

8. What is the acceleration of softball if it has a mass of 0.50 kg and hits the catcher's glove with a force of 25 N?