**Physics**

**FA5.1 - Efficiency and Power**

Name

Favorite YouTube video (besides physics)

**Show your work, and circle your answers to receive full credit.**

1. If a heater is 78.0% efficient, how much fuel energy would it consume to provide 120. J of useful heat? How much useful heat could it produce from 360. J of fuel energy?

2. How much time does it take for a 450. Watt heater to produce 4580 J of heat? What heat will it put out in 32.0 s?

3. What work would you do dragging a 56.5 kg box 12.0 m over a level floor (at a constant low speed) where the coefficient of dynamic friction is 0.215?

4. What is the minimum power rating a motor could have if it is to lift a 560. kg elevator 35.0 m in 78.0 seconds?