

## WEP Basic Training

Training Completed By: \_\_\_\_\_

1. Lee pushes a box 10 m across the floor with a horizontal force of 80 N. How much work does he do?

Ans:

2. The third floor of a house is 8 m above street level. What minimum work is required to move a 150 kg refrigerator to the third floor?

Ans:

3. Brutus, a champion weightlifter, raises 240 kg of weights a distance of 2.35 m. How much work is done by Brutus as he lifts the weights?

Ans:

How much work does he do holding the weights above his head?

Ans:

How much work is done by the Earth lowering them back down to the ground?

Ans:

Does Brutus do work if he drops the weights?

Ans:

If Brutus completes the lift in 2.5 s, how much power does he develop?

Ans:

4. Robin pushes a wheelbarrow by exerting a 145 N force horizontally. Robin moves it 60.0 m at a constant speed for 25.0 seconds. What power does Robin develop?

Ans:

5. A 1600 kg car travels at a speed of 12.5 m/s. What is its kinetic energy?

Ans:

6. Toni has a mass of 45 kg and is moving with a speed of 10.0 m/s. Find Toni's kinetic energy.

Ans:

Toni's speed changes to 5.0 m/s, what's her KE now?

Ans:

7. Shawn and his bike have a total mass of 45.0 kg. He rides his bike 1800 m in 600.0 seconds at a constant velocity. What is Shawn's KE?

Ans:

8. How much potential energy does Tim, with a mass of 60.0 kg, gain when he climbs a gymnasium rope a distance of 3.5 m?

Ans:

9. A 6.4 kg bowling ball is lifted 2.1 m into a storage rack. Calculate the increase in the ball's potential energy.

Ans:

10. A 10.0 kg test rocket is fired vertically from Cape Canaveral. Its fuel gives it a kinetic energy of 1960 Joules by the time the rocket engine burns all of the fuel. How fast is the rocket going at this point?

Ans:

When the fuel runs out the KE of the rocket is 1960 J, how much higher will the rocket go? (HINT: It will gain more PE.)

Ans: