

Name: _____

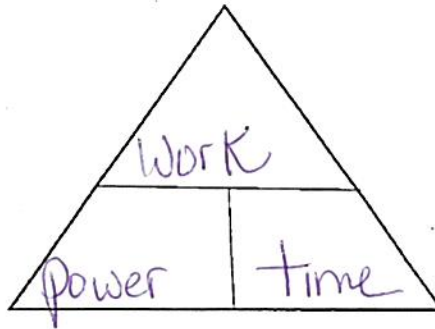
Date: 12/4/19

Power Worksheet

1. What is the formula used to calculate power? $P = \frac{W}{T}$

2. The metric unit for power is the Watt

3. Fill in the Power Triangle:



4. A student who weighs 500 N climbs the stairs from the first floor to the third floor, 15 m above in 20 seconds.

a. How much work did she do?

Formula:	$W = f \times d$
Substitution:	$W = 500N \times 15m$
Final Answer with Units:	$W = 7500.0J$

b. What was her power?

Formula:	$P = \frac{W}{T}$
Substitution:	$P = \frac{7500J}{20s}$
Final Answer with Units:	$P = 375.0W$

5. A box is pushed across the floor for a distance of 5 meters with a force of 50 N in 5 seconds.
- a. How much work is done?

Formula:	$W = f \times d$
Substitution:	$W = 50\text{ N} \times 5\text{ m}$
Final Answer with Units:	$W = 250.0\text{ J}$

- b. What is the power?

Formula:	$P = \frac{W}{t}$
Substitution:	$P = \frac{250.0\text{ J}}{5\text{ s}}$
Final Answer with Units:	$P = 50.0\text{ W}$

6. The power rating of an electric lawn mower is 2000 watts. If the lawn mower is used for 120 seconds, how many joules of work can it do?

Formula:	$W = P \times T$
Substitution:	$W = 2000\text{ W} \times 120\text{ s}$
Final Answer with Units:	$W = 240,000.0\text{ J}$

7. A 750 watt hairdryer is used for 60 seconds. How many joules of energy are used?

Formula:	$W = P \times T$
Substitution:	$W = 750.0\text{ W} \times 60\text{ s}$
Final Answer with Units:	$W = 45,000.0\text{ J}$