Notes Chapter 8 Section 1

_______ occurs when a force causes an object to move in the direction of the force.

Figure 1 shows a girl bowling. Why is she considered to be doing work?

Is she still doing work after she lets go of the ball? Why not?

If you push on a brick wall and don’t get it to move has work been done?

How do you know?

In figure 2 a guy picks up a suitcase and runs to his departure gate with it. When is work being done on the suitcase?

Why isn’t work done on the suitcase for the entire duration of his journey?

The formula for work is \( W = F \times d \).

- \( W \) stands for
- \( F \) stands for
- \( d \) stands for

The unit to describe work is the newton-meter (N x m) or simply called a

___________.

Math Break

1. A man applies a force of 500 N to push a truck 100 m down the street. How much work does he do?
2. In which situation do you do more work?
   A) You lift a 75 N bowling ball 2 m off the floor.
   B) You lift two 50 N bowling balls 1 m off the floor.

3. The work required to push a 250 N wheelbarrow down your driveway is 1500 J. What is the distance of your driveway?

4. You lift a book off the ground 3 m. This takes 330 J of work to do. What force must you apply to the book?

__________ is the rate at which work is done.

The equation for power is \( P = \frac{W}{t} \)

\( P \) stands for
\( W \) stands for
\( t \) stands for

The unit for power is J/s or _____________.

Math Break

1. If you do 46 J of work in 12 seconds what is your power?

2. It takes 30 seconds to produce a power rating of 10 watts. How much work is done?