

Name

Teacher

Hour



WILD THING

OBJECTIVE: Determine the average speed of the Wild Thing, using the length of the ride and the time for one trip.

DATA:

Length = 1,634 m
Time for trip = _____ s

FORMULA USED:

WORK:

Answer: _____ m/s

OBJECTIVE: Calculate the Gravitational potential energy of the car and people at the top of the track. The height of the track is 61 m.

DATA: Height= 61 m
Mass of car= 1,043 kg
of people in car= _____ people
Mass of people in car= _____ people x 60 kg= _____ kg
Total Mass= _____ kg

FORMULA USED:

$PE = m \times g \times h$ $m = \text{Mass in kilograms}$
 $h = \text{Height in meters}$ $g = \text{Gravity at } 9.8 \text{ m/s/s}$

WORK:

Answer: _____ **Newton-meters**

OBJECTIVE: Using the Law of Conservation of Energy, calculate the expected speed of the car at the bottom of the hill.

DATA: Gravitational Potential Energy= _____ Newton-meters

FORMULA USED:

$PE = KE$ $KE = \frac{1}{2} m \times v^2$ $m = \text{Mass in kilograms, } v = \text{speed in m/s}$
Potential Energy = Kinetic Energy $v = \sqrt{(2KE/m)}$ or $v = \sqrt{(2PE/m)}$

Work:

Answer: _____ **m/s**