

P7.8-1)^{fe} A woman and her bike together weigh 150 lb. If the woman is riding up a 10% grade with a constant speed of 10 mi/hr, determine the amount of power she is delivering.

Given:

Find:

Solution:

Free-Body Diagram

Draw a free-body diagram



What is the angle of the hill in degrees?

$\theta =$ _____

Newton's Second Law

Determine the tractive force at the back wheel.

$F_T =$ _____

Power

Write down the equation for the power that you will use and then solve for the power.

- a) $P = 0.398$ hp b) $P = 0.473$ hp
c) $P = 0.528$ hp d) $P = 0.691$ hp