

Name: _____

Period: _____

IPC Physics Final Review 2

<p>MA = _____</p> <p>F or F_w = _____</p> <p>d or λ = _____</p> <p>W or E = _____</p> <p>R = _____</p> <p>I = _____</p> <p>p = _____</p> <p>V = _____</p> <p>P = _____</p> <p>f = _____</p> <p>T = _____</p> <p>a = _____</p>	<p>5 kg/m/s</p> <p>5 Ω</p> <p>5 w</p> <p>5</p> <p>5 sec</p> <p>5 N</p> <p>5 m</p> <p>5 A</p> <p>5 m/s²</p> <p>5 V</p> <p>5 Hz</p> <p>5 J</p>	<p>Show heat transfer:</p> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin: 5px;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 5px;">20°C</td> <td style="padding: 5px;">55°C</td> </tr> </table> </div> <div style="border: 1px solid black; padding: 5px; display: inline-block; margin: 5px;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 5px;">70°C</td> <td style="padding: 5px;">55°C</td> </tr> </table> </div> <p>Conduction, convection, or radiation?</p> <p>Insulator or Conductor?</p> <p>Metal _____ Wood _____</p> <p>Plastic _____ Copper _____</p> <p>Foam _____ Air _____</p>	20°C	55°C	70°C	55°C	<p>Find the speed of a bike that travels 120 meters in 20 seconds.</p> <p>A car starts 10 m away, then drives to 210 meters away in 40 seconds. How fast did they drive?</p> <p>What force results in 3 m/s² of acceleration to a 15 kg mass?</p> <p>A car speeds to 250 mph in 50 seconds. Calculate acceleration.</p>
20°C	55°C						
70°C	55°C						

<p>Experimental or Control Variables:</p>	<p>Which has more inertia: a bus or a bike? Why?</p> <p>Which has more momentum: a house or a fast airplane? Why?</p> <p>A 3 N book rests on a table. Why doesn't it fall?</p>
<p>You would not change these in the experiment: <i>You are trying to find out if snow tires help a car stop in snow.</i></p> <p>You would vary this to figure out how it works: The amount of snow: _____</p> <p>You should have only one of these: The car used: _____</p> <p>All the other variables are: The type of tire: _____</p>	<p>When an astronaut lands on the moon, does his mass change?</p> <p>Does his weight change? Does his inertia change?</p>

Position vs. Time

Where was the object at 2 seconds? _____

When did the object reach 4 meters? _____

Find the slope of the graph (must show work)

What does the slope you just found stand for? _____

A girl is ice skating and has 35 kgm/s of momentum. After she bumps into a friend, she has 25 kgm/s of momentum. How much did she give her friend?

Which of Newton's Three Laws Applies?

___ A rocket moves forward because it pushes out gases from the back.

___ It is hard to push a car, then hard to stop it.

___ A 50 N force gives more accelerates to a 5 kg object than a 10 kg object.

Using $g = 10 \text{ m/s}^2$, find the weight of a 3 kg mass.

A person walks 5 m/s for 60 seconds. How far did they walk?

A 45 N force pulls to the left and friction is 15 N. Find the net force:

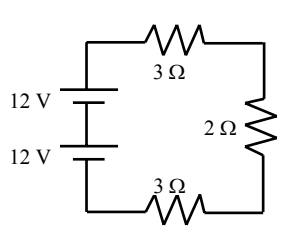
What acceleration will the above net force give a 3 kg mass?

Name: _____

Period: _____

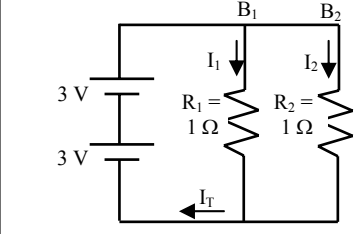
A piece of wood is burned and releases 55 joules of chemical energy. 30 J is transformed into thermal energy, 15 J is transformed into mechanical energy. By the Law of Conservation of Energy, how much energy becomes radiant energy?

You increase the current in an electromagnet. The strength of the electromagnet increases or decreases?



Series or Parallel?

$V_T =$ _____
 $R_T =$ _____
 $I_T =$ _____
 $P =$ _____



Series or Parallel?

$V_T =$ _____ $I_T =$ _____
 $I_1 =$ _____ $R_T =$ _____
 $I_2 =$ _____ $P =$ _____

Is the person doing work?

- ___ When pushing a 1000 N car 20 meters?
- ___ When lifting a rock off the ground?
- ___ When holding a book in their hands?

A person is hammering nails a long way from you. It takes 2 seconds for the sound to get to you. How far away are they?

Make these twice as loud: 60 dB to _____; 25 dB to _____.

Make these half as loud: 100 dB to _____; 35 dB to _____.

In 2 seconds, a 3 N force pushes for 6 m to cause a 25 kg object to end up going 10 m/s.

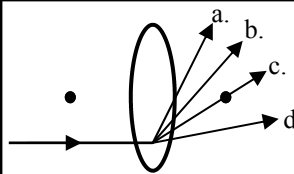
- 1) Find the momentum of the object
- 2) Calculate the object's final kinetic energy.
- 3) A how much work is done to accelerate the object?
- 4) How much power was used on the object?

$$n = \frac{G}{C}$$

Naffet (in kurls) →
← Gorts (in lyrs)
← Cintros (in tr/i)

Naffet equals Gorts divided Cintros

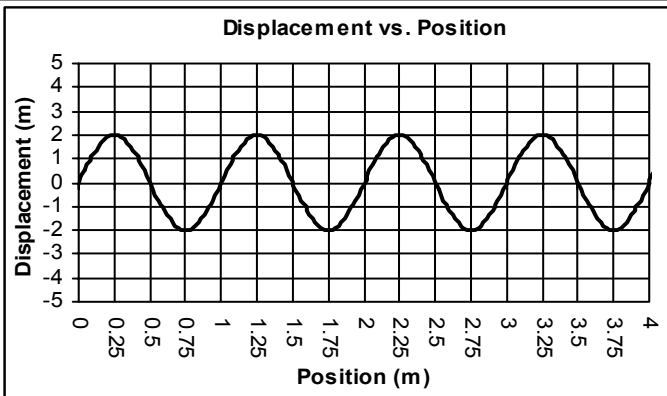
How much Naffet does a 12 lyr box have when given 4 tr/i.



Where will the income ray go?
 What is the dot called?

Why does the light bend?

Concave or convex lens?



Mark 1 cycle of the wave.

Starting at 0.75 m, where does the 2nd cycle end:

Number of complete cycles:

Wavelength: _____ Amplitude: _____

Find the speed of a 12 Hz wave with a 5 m wavelength.

Find its period: _____

What harmonic is this? _____

Could a human hear this frequency? _____

Mark the nodes and anti-nodes.

Mark one wavelength.

How many wavelengths total is it? _____

Find the fundamental frequency:

5th harmonic frequency:



200 Hz