Course: Title

Subtitle

Due on Due Date at 11:59 PM

Instuctor, Section

Author

February 4, 2025

Problem 1: Introducing Problems

Homework problems are placed on individual pages.

Solution

Solutions are placed below the problem statement, and can be split

Part A

into

Part B

different parts.

Problem 2: Defining Features

Problems can include **inline math:** $F_P = -b\dot{x}^2$ and **display math:**

$$\Delta E_{12} = Q_{12} + W_{12} \therefore W_{12} = Q_{12}.$$

Solution

And so can solutions.

Personally, I like to use `align*` environments (though you can use `gather*` environments) for multi-line math.

$$m_P \frac{d\dot{x}}{dt} = F_P$$

$$m_P \frac{d\dot{x}}{dt} = -b\dot{x}^2$$

$$\frac{d\dot{x}}{\dot{x}^2} = -\frac{b}{m_P} dt$$

$$\left[-\frac{1}{\dot{x}} \right]_{v_0}^{\dot{x}} = -\frac{b}{m_P} (t - t_0)$$

$$\dot{x} = \left[v_0^{-1} + \frac{b}{m_P} (t - t_0) \right] \quad \Box.$$

You can also display code blocks using `lstlisting` environments.

```
1    minutes_to_convert = 122
2    convert_label = " Minutes "
3    if minutes_to_convert == 1:
4        convert_label = " Minute "
5
6    hours = int(minutes_to_convert / 60)
7    minutes = minutes_to_convert % 60
8
9    hour_label = " Hours, "
10   if hours == 1:
11       hour_label = " Hour, "
12
13   minute_label = " Minutes"
14   if minutes == 1:
15       minute_label = " Minute"
16
17   print(
18       str(minutes_to_convert)
19       + convert_label
20       + "is the same as:\n"
21       + str(hours)
22       + hour_label
23       + str(minutes)
24       + minute_label
25   )
26
```

Problem Write number here: Write name of problem here

Write problem statement here.

Solution

Write solution here.