

Course: Title

Due on Due Date at 11:59 PM

Instructor, Section

Author

January 9, 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.

$$\begin{aligned} m_P \frac{d\dot{x}}{dt} &= F_P \\ m_P \frac{d\dot{x}}{dt} &= -b\dot{x}^2 \\ \frac{d\dot{x}}{\dot{x}^2} &= -\frac{b}{m_P} dt \\ \left[-\frac{1}{\dot{x}} \right]_{v_0}^{\dot{x}} &= -\frac{b}{m_P} (t - t_0) \\ \dot{x} &= \left[v_0^{-1} + \frac{b}{m_P} (t - t_0) \right]^{-1} \quad \square. \end{aligned}$$

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.