There are two distances a line determines.

\[ \frac{x}{a} - \frac{y}{b} = 0 \]

Expressing this result in terms of \( a \), \( b \), and any other constants.


\[ \frac{d}{p-y} = \frac{b}{b} \]

Drum r. Evaluate the constant \( r \) in the equation, where \( a \) is the total mass per length contained within the surface. If \( r = 0 \), \( \theta = \frac{\pi}{2} \).

\[ \theta = 0 \]


\[ \frac{\theta}{\pi} = \frac{1}{2} \]


The following problem originates on Quiz 2 of 1991, where \( a = 20 \) points.

**Problem 1: A Computer-Like Universe (20 points)**

On the class website, the following quiz will be discussed in more detail.

The quiz will include multiple choice, true-false, and short answer questions.

**Quiz Dates for the Term:**

<table>
<thead>
<tr>
<th>Quiz</th>
<th>Due Date</th>
<th>Lecture Date</th>
<th>Lecture Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>October 8</td>
<td>October 9</td>
<td>October 10</td>
</tr>
<tr>
<td>2</td>
<td>October 15</td>
<td>October 16</td>
<td>October 17</td>
</tr>
<tr>
<td>3</td>
<td>October 22</td>
<td>October 23</td>
<td>October 24</td>
</tr>
</tbody>
</table>

**Short-Term Calendar:**

- **Week 1:**
  - Reading Assignment: Chapter 1
  - Due Date: Monday, September 28, 2015

- **Week 2:**
  - Due Date: Friday, September 25, 2015

**Problem Set 3**

For credit, please review the problem set and submit the correct answers.

**Department:**

Massachusetts Institute of Technology
\[ (6) \quad (x)\nabla A + \frac{\partial A}{\partial t} = \nabla \Phi \]

\[ (5) \quad \frac{\partial}{\partial [\Delta]\nabla G} = (x)\nabla A \]

\[ (4) \quad \frac{\partial A}{\partial \Delta} = \frac{\partial^2 A}{\partial \xi^2} - \frac{\partial^2 A}{\partial \xi^2} = \Phi \]

\[ (3) \quad \nabla A \equiv \Phi \]

\[ (2) \quad \text{Hypothetical expression, generate a proposed energy} \]

\[ (1) \quad \frac{\partial}{\partial \xi} - \frac{\partial A}{\partial \xi} = \frac{\partial C}{\partial \xi} = A \]

**Problem 1:** Energy and the Fundamental Equation

*Problem 2:* A Flat Universe with Ondimensional Time Evolution

\[ \pi (x) = \frac{\partial A}{\partial \xi} + \frac{\partial C}{\partial \xi} = A \]

\[ \text{The Fundamental Equation} \]

\[ \text{Problem 1: Energy and the Fundamental Equation} \]

*Problem 2:* A Flat Universe with Ondimensional Time Evolution

\[ \pi (x) = \frac{\partial A}{\partial \xi} + \frac{\partial C}{\partial \xi} = A \]
\[
\phi \left( \frac{1}{r^3} \right) = \frac{1}{r} + \frac{2}{r^2}
\]

To derive the total energy of the sphere, we conduct the calculation for a spherical surface, enclosed by the sphere.

\[
\mathcal{H} = \frac{1}{r} + \frac{2}{r^2}
\]

When \( r = \infty \), the total energy \( \mathcal{H} = 0 \) and the solution is valid. As \( r \to 0 \), the solution diverges, and the problem is not well-posed.

In this problem, we model a harmonic oscillator with a potential energy term.

\[
\mathcal{H} = \frac{1}{r} + \frac{2}{r^2}
\]

When \( r \to 0 \), the solution diverges, and the problem is not well-posed.

In this problem, we model a harmonic oscillator with a potential energy term.

\[
\mathcal{H} = \frac{1}{r} + \frac{2}{r^2}
\]

When \( r \to 0 \), the solution diverges, and the problem is not well-posed.

In this problem, we model a harmonic oscillator with a potential energy term.

\[
\mathcal{H} = \frac{1}{r} + \frac{2}{r^2}
\]

When \( r \to 0 \), the solution diverges, and the problem is not well-posed.

In this problem, we model a harmonic oscillator with a potential energy term.

\[
\mathcal{H} = \frac{1}{r} + \frac{2}{r^2}
\]

When \( r \to 0 \), the solution diverges, and the problem is not well-posed.

In this problem, we model a harmonic oscillator with a potential energy term.
Total Points for Problem Set 3: 54.

Determine the solution to the differential equation.

\[
\begin{align*}
\text{(a)} & \quad n(t) = (1)^{n(t)} \\
\text{(b)} & \quad \text{If the function } f(t) \text{ is given, then we have learned that for a certain value of } n, \text{ the differential equation found in (a) must be rewritten in terms of function } \psi(t, n(t)). \text{ Find } n(t) \text{ if } \psi(t, n(t)) \text{ is the differential equation found in (a)}. \\
\text{(c)} & \quad \text{If } f(t) \text{ is given, then the differential equation found in (a)} \Rightarrow n(t) = (1)^{n(t)} \\
\text{(d)} & \quad \text{As done in the previous notes, we define} \\
\text{(e)} & \quad (\psi_{t, n})_{\text{new}} = \frac{\psi_{t, n} \phi}{(t, n)} \\
\text{(f)} & \quad \text{where } \psi \text{ is a constant. The function } \psi_{t, n} \text{ then obeys the differential equation}
\end{align*}
\]