4) Critical $4.5g$

What are the values of $\Lambda$ and $T$, and $L - L$?

$$\varepsilon (\Sigma \Sigma ) (\Lambda ) + T \Sigma (\Lambda ) + (\Lambda ) = (\Lambda )$$

5) A particle of spin 1 moves in a central force potential of the form

$$\varepsilon + \frac{q^2}{r^2} + H$$

where $a$ and $b$ are real constants. What are the energy levels of the system?

6) Two spin-1/2 particles interact with the Hamiltonian

$$H = - \frac{1}{2} \sum_{\text{pairs}}$$

Find the probability that the $z$ component of the spin of a particle is $m_z$.

7) Consider a system of two particles, one has spin $1$, the other spin $1/2$. What are the possible values of the total spin? Assume that the total spin is $s = 3/2$ and $m = 1/2$. Express this state as the linear combination of the individual spin eigenstates. (Explain the Clebsch-Gordan coefficients.)

Due Feb 1, 2013

Physics 320 Spring 2013

Homework 2
\[ a = 2 \left( \frac{Z}{\varepsilon} \right) \frac{q}{e} \]
\[ \sqrt{2} + \frac{2 \sqrt{2}}{1} - 1 \frac{2 \sqrt{2}}{1} \]

Where the coordinates are:

\[ z_2 = \frac{\sqrt{2}}{1} \]

\[ 1 - \frac{2 \sqrt{2}}{1} = 1 \]

\[ 1 - \frac{2 \sqrt{2}}{1} = 1 \]

\[ \frac{\sqrt{2}}{1} + 1 = 1 \frac{\sqrt{2}}{1} \]

\[ \text{Then } \frac{1}{\sqrt{2}} = \frac{1}{1} \plus \frac{\sqrt{2}}{1} \]

\[ \sqrt{2} = \frac{\sqrt{2}}{1} + \frac{\sqrt{2}}{1} \]

\[ 2 \sqrt{2} = \frac{\sqrt{2}}{1} + \frac{\sqrt{2}}{1} \]

\[ \frac{\sqrt{2}}{1} + \frac{\sqrt{2}}{1} = \frac{\sqrt{2}}{1} + \frac{\sqrt{2}}{1} \]

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\[
\frac{2}{g} \cos \left( \frac{x}{\sqrt{g}} \right) + \frac{1}{g} \sin \left( \frac{x}{\sqrt{g}} \right) \quad (L_2) \]

\[
\sum_{n=0}^{\infty} \left( \frac{2}{g} \right)^n \frac{1}{(2n+1)^2} = \frac{1}{\pi^2} \quad (1.1) \]

\[
\sum_{n=0}^{\infty} \left( \frac{2}{g} \right)^n = \frac{1}{1 - \frac{2}{g}} \quad (2) \]

\[
\frac{\pi^2}{6} = \frac{2}{g} \quad (3) \]

\[
x_0 = \left( \begin{array}{c} 0 \\ 0 \end{array} \right), \quad x_n = \left( \begin{array}{c} (2n+1)^2 \\ 1 \end{array} \right) \quad (4) \]

\[
\frac{2}{g} \frac{\pi^2}{6} = \frac{2}{g} \quad (5) \]

\[
\phi = \phi_0 + \sum_{n=1}^{\infty} \frac{1}{(2n+1)^2} \left( \frac{2}{g} \right)^n \quad (L_2) \]

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\phi = \phi_0 + \sum_{n=1}^{\infty} \frac{1}{(2n+1)^2} \left( \frac{2}{g} \right)^n \quad (L_2) \]
\[(\frac{1}{\sqrt{2}} + \frac{i}{\sqrt{2}}) \text{ or } \frac{i}{\sqrt{2}} \cdot (\frac{1}{\sqrt{2}} + \frac{i}{\sqrt{2}}) \]

\[= \frac{1}{2} - \frac{i}{2} + \frac{i}{2} \frac{1}{2} = \frac{1}{2} \text{ or } \frac{1}{2} \]

\[= \frac{1}{2} \text{ or } \frac{1}{2} \]

Thus, it is very straightforward to prove that the roots are:

\[(\frac{1}{2}, \frac{1}{2}) \]

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

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Thus, it is very straightforward to prove that the roots of the equation is:

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The image contains a mathematical problem and its solution. The text is handwritten and appears to be a continuation of a previous discussion or problem. The equation involves trigonometric identities and algebraic manipulations. The solution is written in a step-by-step manner, starting with the initial setup and progressing through intermediate steps to the final result.

The first line seems to be a continuation of a previous discussion or problem, mentioning a sentence about a theorem or property, possibly related to trigonometric identities. The next line introduces a variable and equation setup, which is then followed by a series of algebraic manipulations involving trigonometric functions.

The solution process involves the use of trigonometric identities and algebraic simplifications. The final result is presented as the solution to the given problem, which includes a series of steps and intermediate calculations leading to the final expression.

The diagram accompanying the text provides a visual representation of the problem, possibly illustrating the geometric or spatial aspects of the problem. The diagram includes labeled points and angles, which are referenced in the text to aid in understanding the problem's context and solution.

In summary, the image presents a mathematical problem with a detailed solution involving trigonometric identities and algebraic manipulations. The visual aid in the form of a diagram complements the textual explanation, providing a comprehensive understanding of the problem and its solution.
If \( a, b, c \) are given, the vector of the projection of \( \mathbf{v} \) on \( \mathbf{u} \) is given by:

\[
\frac{\mathbf{v} \cdot \mathbf{u}}{\mathbf{u} \cdot \mathbf{u}} \mathbf{u} = \left( \frac{a}{b} \right) \mathbf{e}_1 + \left( \frac{b}{c} \right) \mathbf{e}_2 + \left( \frac{c}{d} \right) \mathbf{e}_3
\]

Apply the same considerations as in (b).

So

\[
\mathbf{v} \cdot \mathbf{u} = a \mathbf{e}_1 + b \mathbf{e}_2 + c \mathbf{e}_3 = 0
\]

Choose directly \( a = 1 \) and

\[
\frac{\mathbf{v} \cdot \mathbf{u}}{\mathbf{u} \cdot \mathbf{u}} \mathbf{u} = \left( \frac{1}{2} \right) \mathbf{e}_1 + \left( \frac{b}{c} \right) \mathbf{e}_2 + \left( \frac{c}{d} \right) \mathbf{e}_3.
\]
\[ a = 0.9 + 0.1 \]

\[ 2^{4} (2^{4} + 2^{2}) = 2 \cdot 2^{4} + (2^{4} + 2^{2}) \]

\[ 2^{4} (2^{4} + 2^{2}) = 2 \cdot 2^{4} + 2^{2} \cdot 2^{4} + = 2 \cdot 2^{4} + 2^{6} \]

To find the corresponding matrix equation:

\[ <0 = 2^{5}, 0 = 2^{5}, 0 = 2^{5}, \ldots > \]

(A) \[ 0 \otimes \frac{2}{7} \rightarrow \frac{2}{7} = 2^{5}, \frac{2}{7} = 2^{5} \]

Based on the above calculations, it can be concluded that the representations of \( 2 \) and \( 3 \) are well.

The representations of \( H \) are eigenvalues of \( H \).

Since \( [2, 5, 3, 0] = [2^{5}, 3, 0] \),

The equations are:

1. \[ a = 0.9 + 0.1 \]
2. \[ 2^{4} (2^{4} + 2^{2}) = 2 \cdot 2^{4} + (2^{4} + 2^{2}) \]
3. \[ 2^{4} (2^{4} + 2^{2}) = 2 \cdot 2^{4} + 2^{2} \cdot 2^{4} + = 2 \cdot 2^{4} + 2^{6} \]
4. \[ <0 = 2^{5}, 0 = 2^{5}, 0 = 2^{5}, \ldots > \]
5. \[ 0 \otimes \frac{2}{7} \rightarrow \frac{2}{7} = 2^{5}, \frac{2}{7} = 2^{5} \]
6. Since \( [2, 5, 3, 0] = [2^{5}, 3, 0] \)