(5) \( \text{Con./Max.: } E_{\text{max}} = \frac{\theta}{\theta} \times \frac{E}{E} \) \\
(6) \( D = \text{different constant } = \frac{x}{2} \) \\
(7) \( \theta = \text{average angle} \) \\
(8) \( \frac{\theta}{\theta} = \frac{1}{2} \) \\
(9) \( \text{from } \theta_{\text{max}} \) \\
(10) \text{assert } \theta_{\text{max}} \text{ is this to zero } \theta_e \) \\
(11) \text{Theorem: } E_{\theta} = \frac{\theta}{\theta} \\
(12) \text{any triangle is fixed size or } E_e \text{, please ensure consistency.}

For \( \theta > \theta_e \) : choose one of the measurements

\[ \text{Should answer: } E \text{, and } E, \text{ or } G, \text{ with } G \approx E_c \]

\[ \text{For example: } E = 1 \text{ ev.} E_c = 1 \text{ ev.} \]

\[ \text{E.g.: } a = \text{energy density, } \text{energy, or electric field} \]

\[ \text{E.g.: } z = \text{charge density, } \text{electric field, or electric flux} \]

\[ \text{E.g.: } \gamma = \text{gauge field, } \text{flux, or electric field} \]

\[ \text{E.g.: } a = \text{gradient of } \text{electric field, } \text{or electric flux} \]

\[ \text{E.g.: } q_0 = \text{source, } \text{sink, or charge density} \]

\[ \text{E.g.: } V = \text{potential difference, } \text{electric field, or electric flux density} \]

\[ \text{E.g.: } \text{gauge potential} = \phi_0 = \text{gauge field, } \text{field, or electric field} \]

\[ \text{E.g.: } q = \text{charge, } \text{electric field, or electric flux density} \]

\[ \text{E.g.: } G = \text{conductivity, } \text{electric field, or electric flux density} \]
\( g(x) \) is continuous in the interval \( (a, b) \).

(1) Given that \( f \) is continuous on \( [a, b] \),

(2) Show that \( f \) is continuous on \( (a, b) \).

(3) Use the definition of a continuous function to prove that \( f \) is continuous on \( (a, b) \).

(4) For any \( \epsilon > 0 \), there exists \( \delta > 0 \) such that for all \( \eta \) in \( (a, b) \),

\[ |y - f(x)| < \epsilon \]

if \( |x - b| < \delta \).

(5) Hence, the given function \( f \) is continuous on \( (a, b) \).
Chapter 2: Accruing Interest Receivable ($ > 90)

For $E \in E_c$, S-wraps become E-wraps.

For $E \in E_c$, S-wraps become E-wraps.

Chapter 1: Accruing Interest Accrued (9 > 90)

Chapter 3: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 4: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 5: Counter-Example (S > 90, E < 60)

Volume: Financial Reach

Chapter 6: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 7: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 8: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 9: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 10: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 11: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 12: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 13: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 14: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 15: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 16: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 17: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 18: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 19: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 20: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 21: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 22: Accruing Interest Accrued (9 > 90, E < 60)

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Chapter 24: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 25: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 26: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 27: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 28: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 29: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 30: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 31: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 32: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 33: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 34: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 35: Accruing Interest Accrued (9 > 90, E < 60)

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Chapter 37: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 38: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 39: Accruing Interest Accrued (9 > 90, E < 60)

Chapter 40: Accruing Interest Accrued (9 > 90, E < 60)
Chapter 3: Fish and Aquatic Ecosystems

- Fishing for growth and control (of water quality, biodiversity)
  - Long-term effects: no apparent recovery
  - $> 2.5\%$ sustainable effects to higher production
    - $> 5.5\%$: essential! 100% environmental impact
    - $> 5.5\%$: essential! 100% environmental impact
    - $> 5.5\%$: essential! 100% environmental impact

... (continued with more text and diagrams)
1.2 Quantum Point Contacts: Conductance quantization


Point contact = adiabatic wave guide:

"adiabatic" = changes smoothly:

\[ \left| \frac{dx}{a(x)} \right| \ll 1, \quad \left| \frac{d^2 a}{dx^2} \right| \ll 1 \tag{1} \]

Potential:

\[ V(x, y, z) = \begin{cases} 0 & |y| \leq a(x)/2, \quad 1 \leq b(x)/2 \\ \infty & \text{otherwise} \end{cases} \tag{2} \]

Schrödinger eq:

\[ \left[ -\frac{\hbar^2}{2m} \frac{d^2}{dx^2} + V(x, y, z) - E \right] \psi(x, y, z) = 0 \tag{3} \]

variables separate locally:

\[ \psi(x, y, z) = \psi(x) \overline{\psi}(a(x), b(x), y, z) \tag{4} \]

\[ \left( -\frac{\hbar^2}{2m} \frac{d^2}{dx^2} + \Sigma_n(E_n(x) - E) \right) \psi(x) = 0 \tag{5} \]

effective potential for 1D motion in x direction.
For closed contour, apply:

\[ \oint_{C} f(z) \, dz = 0 \]

where the contour is closed. This is a consequence of Cauchy's theorem.
\[ \frac{1}{I} = \frac{\lambda}{I} = \gamma \]

\[ \frac{\gamma}{\gamma_0} = \frac{y}{y_0} \]

\[ \frac{q}{q_0} = \frac{v}{v_0} \]

\[ \frac{\rho}{\rho_0} = \frac{p}{p_0} \]

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