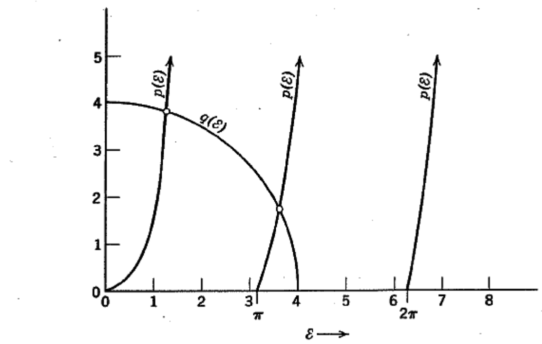

Figure 8–15. A graphical solution of the equation for eigenvalues of the first class of a particular square well potential. [Solution of $\varepsilon \tan \varepsilon = \sqrt{mV_0a^2/2\hbar^2 - \varepsilon^2}$ or $p(\varepsilon) = q(\varepsilon)$.]

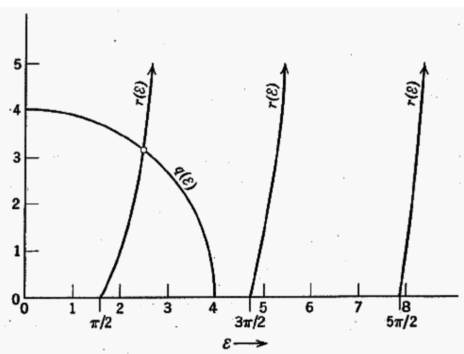

Figure 8–16. A graphical solution of the equation for eigenvalues of the second class of a particular square well potential. [Solution of $-\varepsilon \cot \varepsilon = \sqrt{mV_0a^2/2\hbar^2 - \varepsilon^2}$ or $r(\varepsilon) = q(\varepsilon)$.]

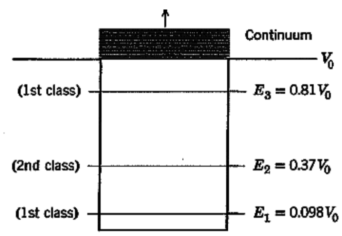

Figure 8–17. The eigenvalues of a particular square well potential.

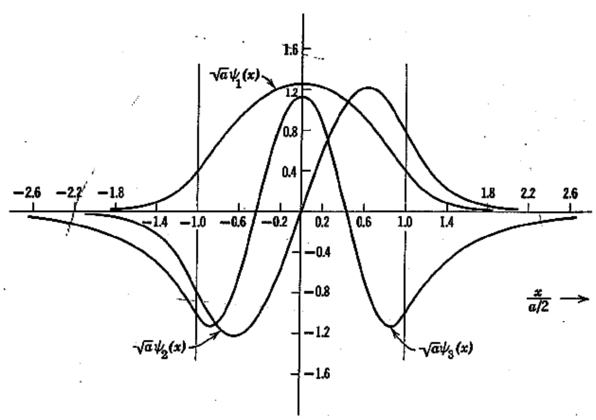

Figure 8–18. The eigenfunctions for the bound eigenstates of a particular square well potential.

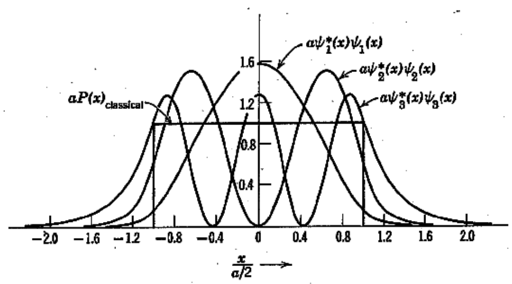

Figure 8–19. The probability densities for the bound eigenstates of a particular square well potential.

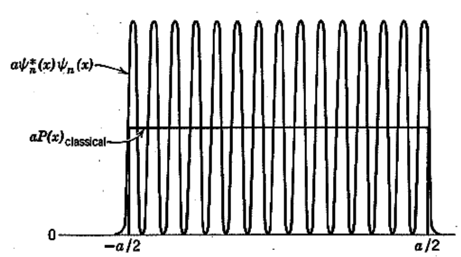

Figure 8–20. Illustrating the approach to the classical limit of the probability density for a square well potential.

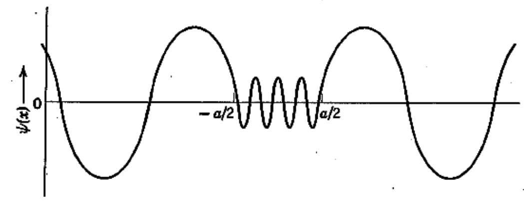

Figure 8–21. An even parity unbound eigenfunction for a square well potential and a typical value of total energy.

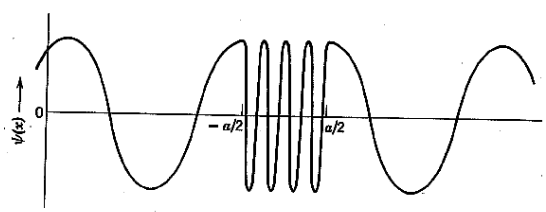

Figure 8–22. An even parity unbound eigenfunction for a square well potential when the total energy is at resonance.

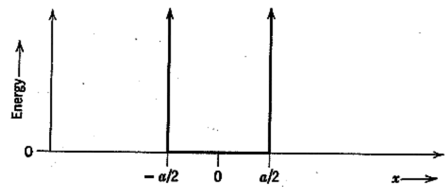

Figure 8–23. An infinite square well potential.

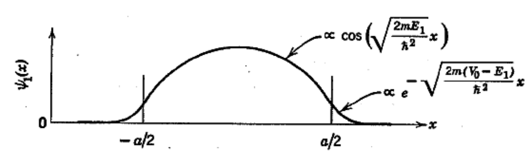

Figure 8–24. The first eigenfunction for a finite square well potential.

Figure 8–25. The first eigenfunction for an infinite square well potential.

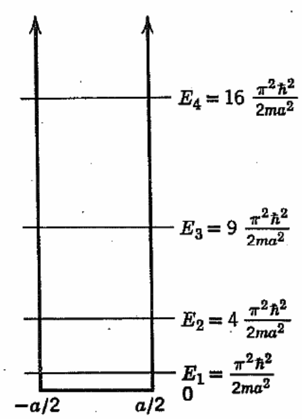

Figure 8–26. The first few eigenvalues for an infinite square well potential.

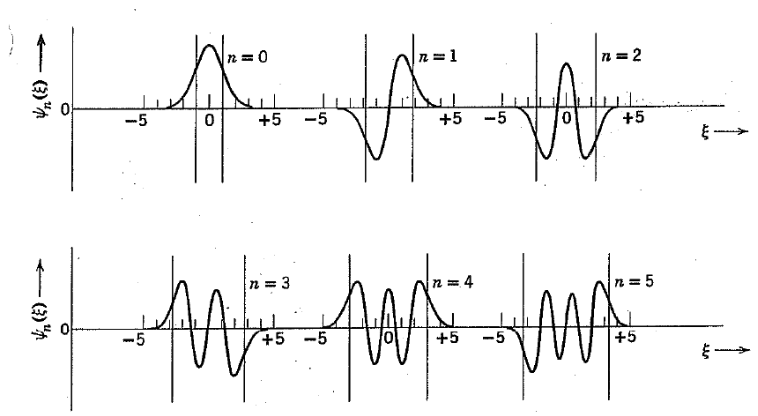

Figure 8–29. The first few eigenfunctions for a simple harmonic oscillator potential.

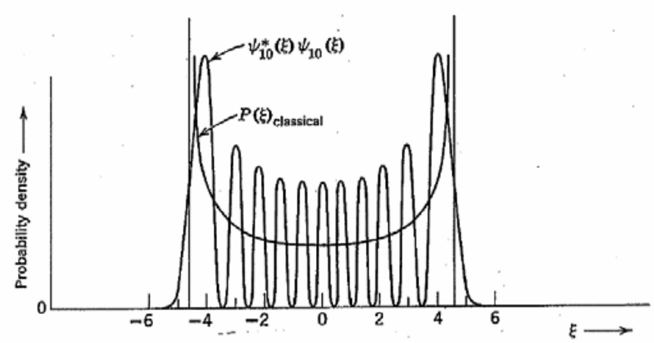

Figure 8–30. Illustrating the approach to the classical limit of the probability density for a simple harmonic oscillator potential. From L. Pauling and E. B. Wilson, *Introduction to Quantum Mechanics*, McGraw-Hill Book Co., New York, 1935.