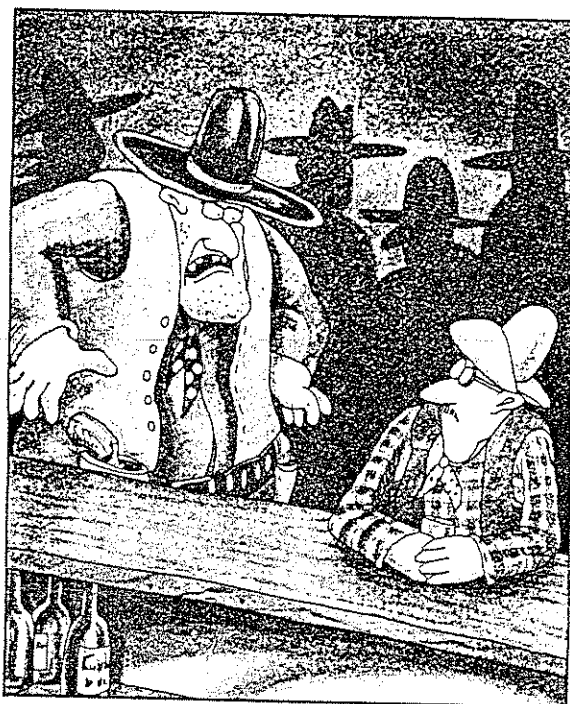




"I asked you a question, buddy. . . . What's the square root of 5,248?"

$$y = \sqrt{x}, \quad dy = \frac{1}{2\sqrt{x}} dx$$

$$f(4900+348) - f(4900) \simeq dy$$

$$\sqrt{5248} \simeq 70 + \frac{1}{2(70)}(348)$$

$$\simeq 70 + \frac{1}{2(70)}(350)$$

$$= 70 + \frac{5}{2} = 72.5$$

Differentials save the day!