1)

DEFINITIVE PROOF TEN: EINSTEIN'S CALCULATION OF LIGHT DEFLECTION IS INCORRECT

As shown in definitive proof nine, Einstein's general relativity gives the orbital equation:

$$\frac{d\theta}{dr} = \frac{1}{A^{1/2}\, r\,(r^2 - B)^{1/2}} \qquad -(1)$$

where A and B are constants. This is not the equation of a processing ellipse. The light deflection is:

$$\Delta\theta = 2\int_{R_0}^{\infty} \frac{dr}{A^{1/2}\, r\,(r^2 - B)^{1/2}} - \pi \qquad -(2)$$

and this is not the integral used by Einstein. It does not give Einstein's result.

In addition it was shown in UFT150 that Einstein's calculation contained several errors.

Using:

$$u = \frac{1}{r} \qquad -(3)$$

the integral (2) becomes:

$$\Delta\theta = \frac{2}{A^{1/2}}\int_0^{1/R_0} \frac{u^2\, du}{(1 - Bu^2)^{1/2}} - \pi$$

$$= \frac{2}{(AB)^{1/2}}\int_0^{1/R_0} \frac{u^2\, du}{\left(\frac{1}{B} - u^2\right)^{1/2}} - \pi \qquad -(4)$$

This can be evaluated using the standard

2) integral:

$$\int \frac{x^2\,dx}{(a^2-x^2)^{1/2}} = -\frac{x}{2}\left(a^2-x^2\right)^{1/2} + \frac{a^2}{2}\sin^{-1}\frac{x}{a} \qquad -(5)$$

with $a^2 = 1/B \; ; \; x = u$ $\qquad -(6)$

So:

$$\Delta\theta = \left[\left. -\frac{u}{2}\left(\frac{1}{B} - u^2\right)^{1/2} + \frac{1}{2B}\sin^{-1}\left(B^{1/2}u\right)\right|_0^{1/R_0}\right]\frac{2}{(AB)^{1/2}} - \pi \qquad -(7)$$

$$\boxed{\Delta\theta = \frac{1}{A^{1/2}B^{3/2}}\sin^{-1}\left(\frac{B^{1/2}}{R_0}\right) - \frac{1}{(AB)^{1/2}R_0}\left(\frac{1}{B} - \frac{1}{R_0^2}\right)^{1/2} - \pi} \qquad -(8)$$

where:

$$A = \frac{E}{L^2}\left(\frac{E}{c^2} - \frac{m}{1+\frac{E}{mc^2}}\right), \quad B = \frac{E}{mc^2\left(1+\frac{E}{mc^2}\right)} \qquad -(9)$$

This is not the result obtained by Einstein:

$$\Delta\theta = ?\ \frac{4MG}{c^2 R_0} \qquad -(10).$$

Q.E.D.