

We have next formula:

$$UEF = 0.8165 + 0.2254 \tan^{-1}((Year - 1967.5)/21.25)$$

Answer: We have an angle in radian. We mean that we use value of  $\tan^{-1}(x)$  function in radians (not in degrees). Then we will have right answers.

Let's take year 2010:

$$\begin{aligned}UEF &= 0.8165 + 0.2254 \tan^{-1}((2010 - 1967.5)/21.25) = \\ &= 0.8165 + 0.2254 \tan^{-1}(2) = \\ &= 0.8165 + 0.2254 \cdot 1.07 = 1.06.\end{aligned}$$

In the same way we will have:

$$\text{For year} = 2000: UEF = 0.8165 + 0.2254 \tan^{-1}((2000 - 1967.5)/21.25) = 1.03;$$

$$\text{For year} = 1990: UEF = 0.8165 + 0.2254 \tan^{-1}((1990 - 1967.5)/21.25) = 1.00;$$

$$\text{For year} = 1980: UEF = 0.8165 + 0.2254 \tan^{-1}((1980 - 1967.5)/21.25) = 0.94;$$

$$\text{For year} = 1970: UEF = 0.8165 + 0.2254 \tan^{-1}((1970 - 1967.5)/21.25) = 0.84;$$

$$\text{For year} = 1960: UEF = 0.8165 + 0.2254 \tan^{-1}((1960 - 1967.5)/21.25) = 0.74.$$