$$\boxed{f(x) = 0}$$

$$x \pm f(x) = x$$

$$\underbrace{\qquad\qquad}$$

$$\underline{g(x) = x \pm f(x)}$$

NO!
You have to
choose $g(x)$
carefully!

$$f(x) = \boxed{x - \cos(x)} = 0 \qquad\qquad \boxed{r = 0.7391}$$

$$g(x) = \cos(x) ; \qquad \underline{x = g(x)}$$

$$f(x) = x - g(x)$$

$$\boxed{x = \cos(x)} \qquad x_0 = 1$$

$$\cos(1) = \underline{.5403}$$

$$x_1 = \cos(x_0) = 0.543$$

$$x_2 = \cos(x_1) = .8576$$

$$x_3 = \cos(0.8576) = .6543$$

$$x_{23} = \cos(x_{22}) = 0.7390$$

$$x_{24} = \cos(x_{23}) = 0.7391$$

$$x_{25} = \cos(x_{24}) = 0.7391$$