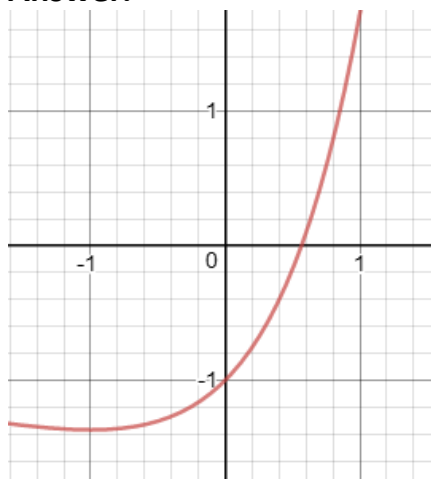


Question #65683, Math / Other

Find an approximate value of the positive real root of $xe^x = 1$ using graphical method. Use this value to find the positive real root of $xe^x = 1$ correct to three decimal places by fixed point iteration method.

Answer.



$$x_0 = 0.5.$$

$$x_{n+1} = e^{-x_n}$$

x_n	x_{n+1}
0.5	0.60653
0.60653	0.54524
0.54524	0.5797
0.5797	0.56006
0.56006	0.57117
0.57117	0.56486
0.56486	0.56844
0.56844	0.56641
0.56641	0.56756
0.56756	0.56691
0.56691	0.56728
0.56728	0.56707

So, $x = 0.567$.

Answer provided by www.AssignmentExpert.com

