Iteration 2

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Use App 2 to help you solve the equation

$$xe^{-x} - x + 4 = 0$$

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1. (a) Change the values of a, b, x_0 and t to $a = 1$, $b = 4$, $x_0 = -1$ and $t = 3$. Write down the values of x_1, x_2 and x_3 correct to 2 decimal places.

   (b) What type of iteration is displayed; cobweb, diverent or staircase.

2. (a) Using the function
   $$f(x) = xe^{-x} + 0.2x + 4$$
   to find the values of f(-1.18) and f(-1.16) to show that there is a root between -1.18 and -1.16 for f(x) = 0.

   (b) Use the applet with $a = -0.2$, $b = 4$, $x_0 = -0.2$ and $t = 6$, to find the values of x_1 to x_6 correct to 2 decimal places.