HW10 solution (Prob 32)

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9:26 PN

Solve the equation $e^x + 15e^x = 8$. Let $t = e^x > 0$. Then $e^x = \frac{1}{e^x} = \frac{1}{t}$.

The original equation can be rewritten as $t+15\frac{1}{t}=8$.

Multiply both sides by $t: t^2 + 15 = 8t$

my 12-86+15=0

 $\sim (t-3)(t-5)=0$

~ t= 3 or t=5

~ e=3 or e=5

~ n=lu3 or lu5

Condusion: the equation has two solutions: la 3 and la 5.