

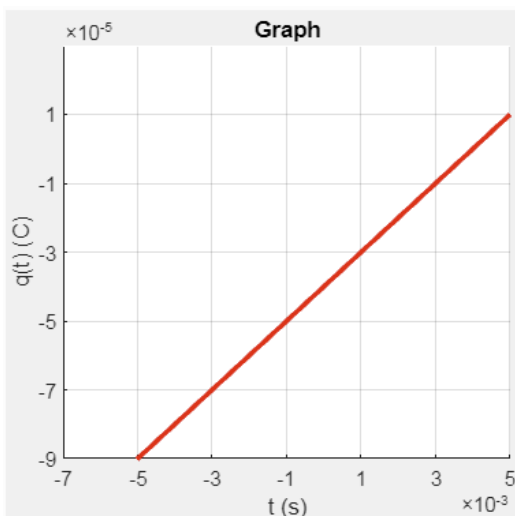
Linear Function, 2

This set of exercises aims to help you to gain expertise in the use of Scientific Notation when working with linear functions.

If you need to compute the equation of the line given a graph, you must look for two pieces of data out of the figure, for instance: 1) m and b , 2) m , (t_1, q_1) , 3) (t_1, q_1) , (t_2, q_2) . Given those data you must compute the equation in the general form as follows: $q(t) = mt + b$.

Don't use always the same information, look for slope and intercept in some exercises, in others look for slope and one data point, and in others look for two data points.

Example: compute the equation of the following line. Do not use any electronic device.



For instance, looking for the slope and one data point,

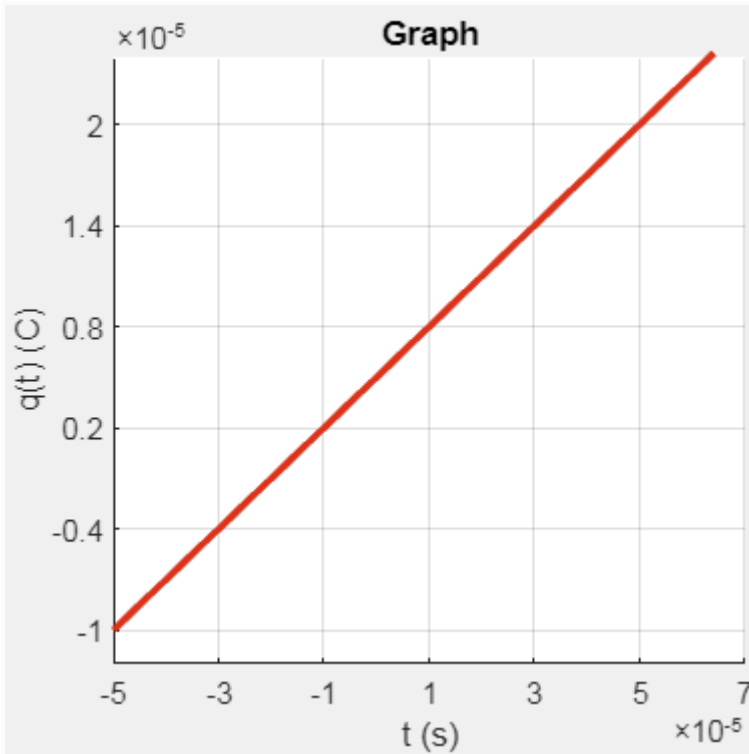
- m could be $\frac{-1 \times 10^{-5} - (-3 \times 10^{-5})}{3 \times 10^{-3} - 1 \times 10^{-3}} \rightarrow m = \frac{2 \times 10^{-5}}{2 \times 10^{-3}} \rightarrow m = 1 \times 10^{-2} \left(\frac{C}{s} \right)$
- (t_1, q_1) could be $(1 \times 10^{-3}, -3 \times 10^{-5})$

Then, the equation of the line is:

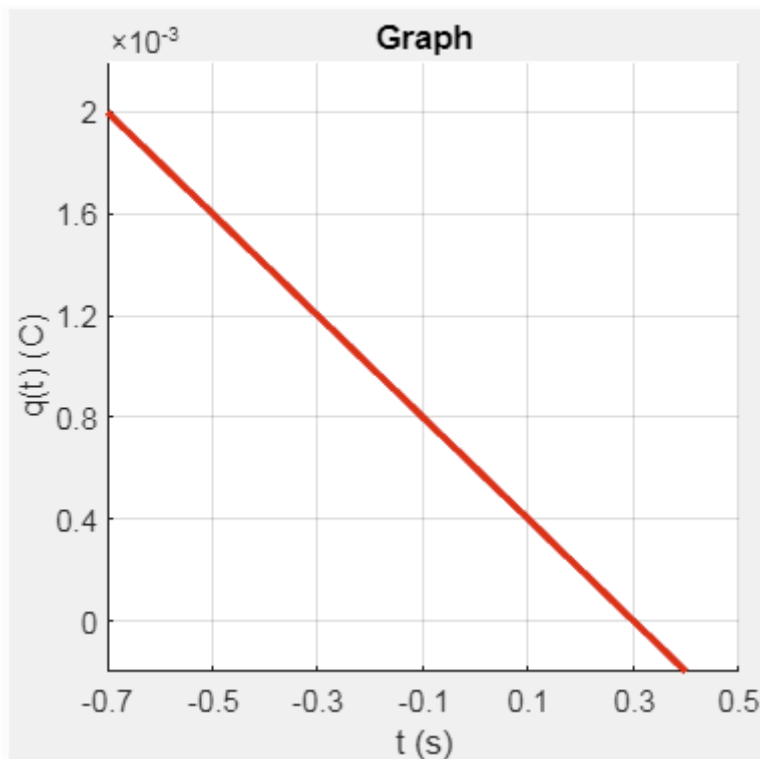
$$\frac{q(t) - q_1}{t - t_1} = m \rightarrow \frac{q(t) - (-3 \times 10^{-5})}{t - 1 \times 10^{-3}} = 1 \times 10^{-2}, \text{ thus:}$$

$$q(t) = 1 \times 10^{-2}t - 5 \times 10^{-5} \text{ (C)}$$

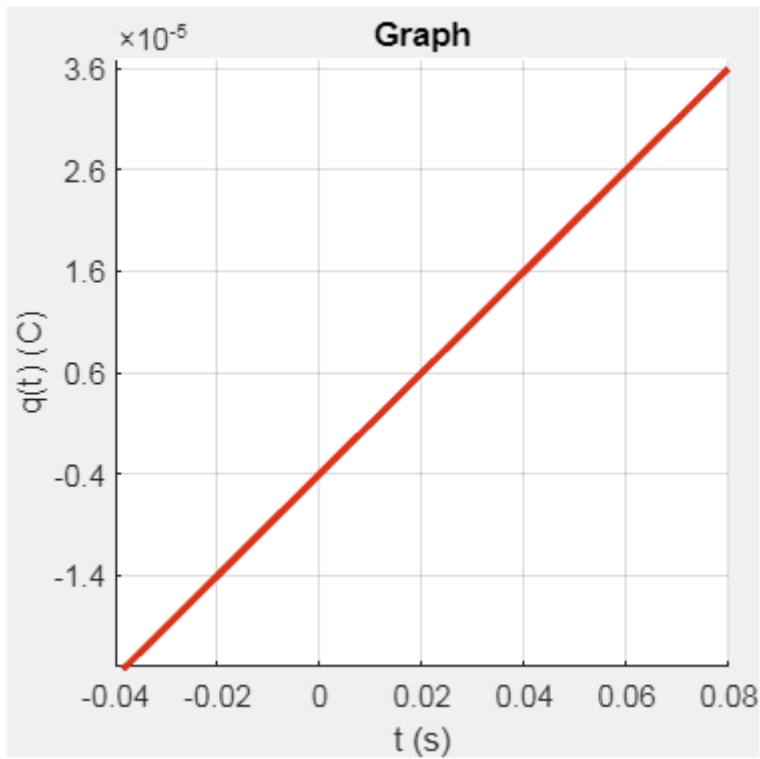
1. Compute the equation of the following line. Do not use any electronic device.



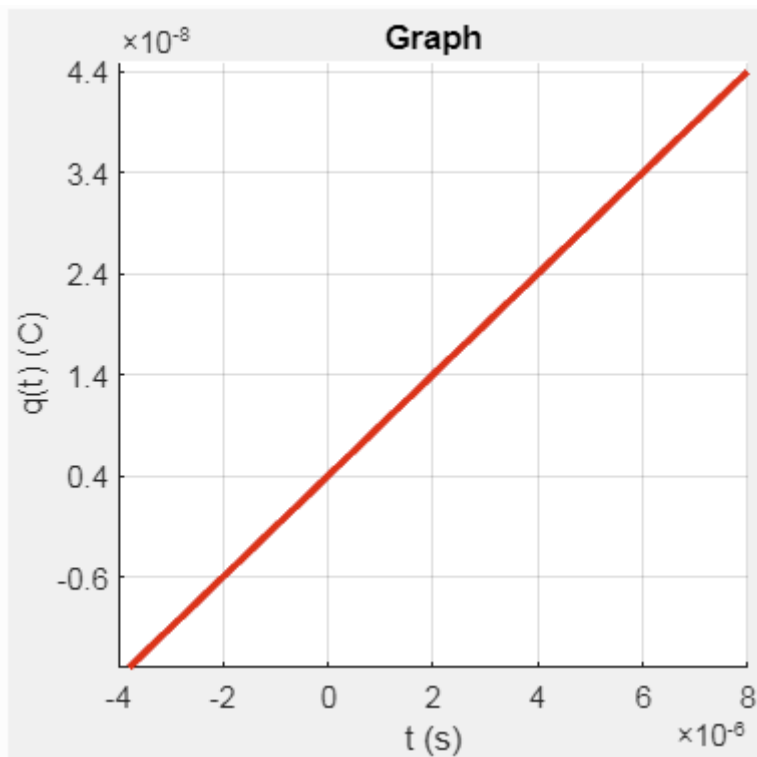
2. Compute the equation of the following line. Do not use any electronic device.



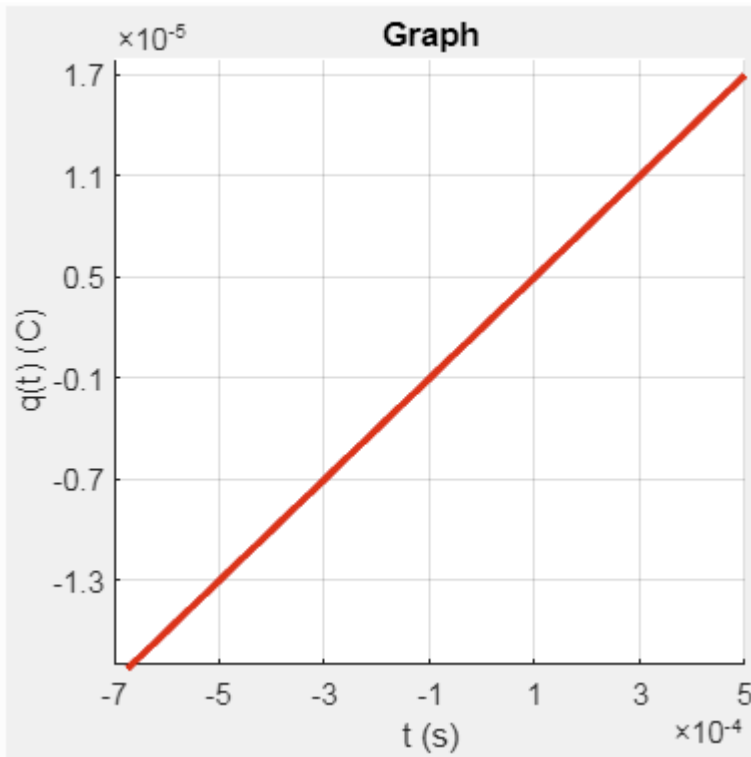
3. Compute the equation of the following line. Do not use any electronic device.



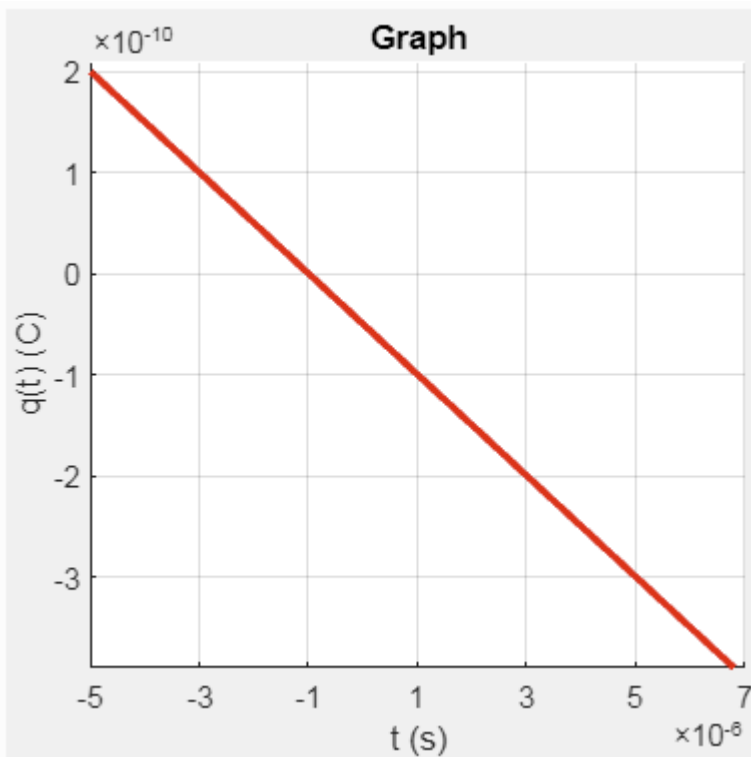
4. Compute the equation of the following line. Do not use any electronic device.



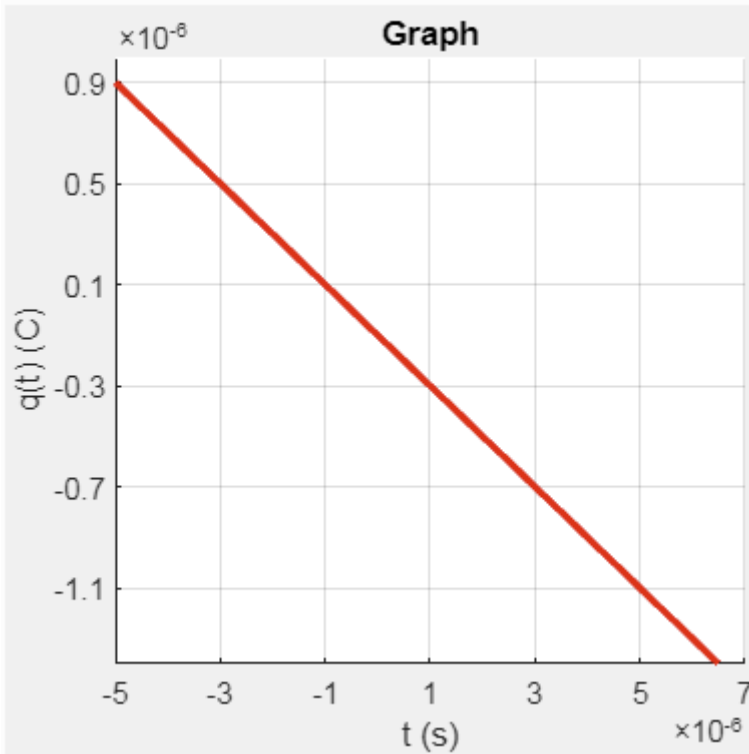
5. Compute the equation of the following line. Do not use any electronic device.



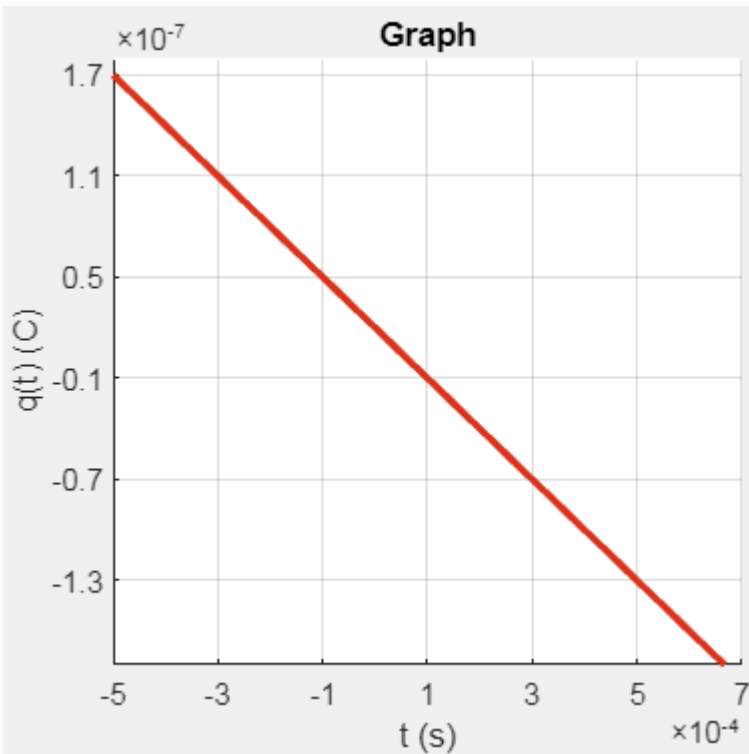
6. Compute the equation of the following line. Do not use any electronic device.



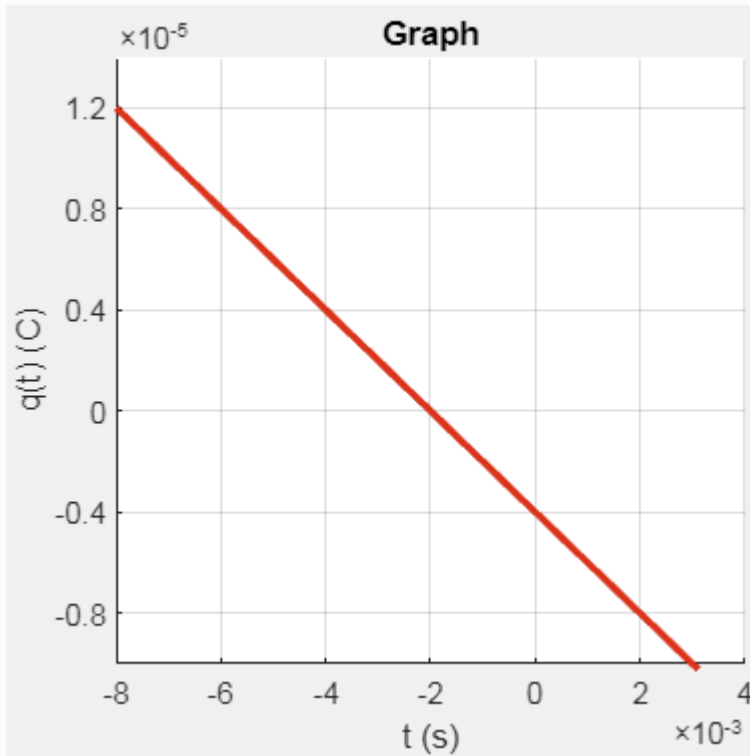
7. Compute the equation of the following line. Do not use any electronic device.



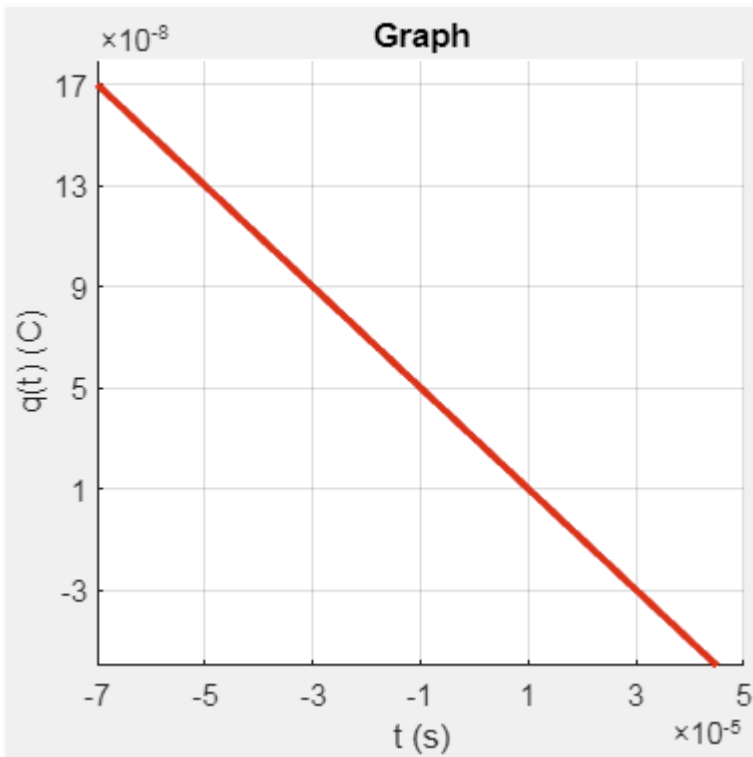
8. Compute the equation of the following line. Do not use any electronic device.



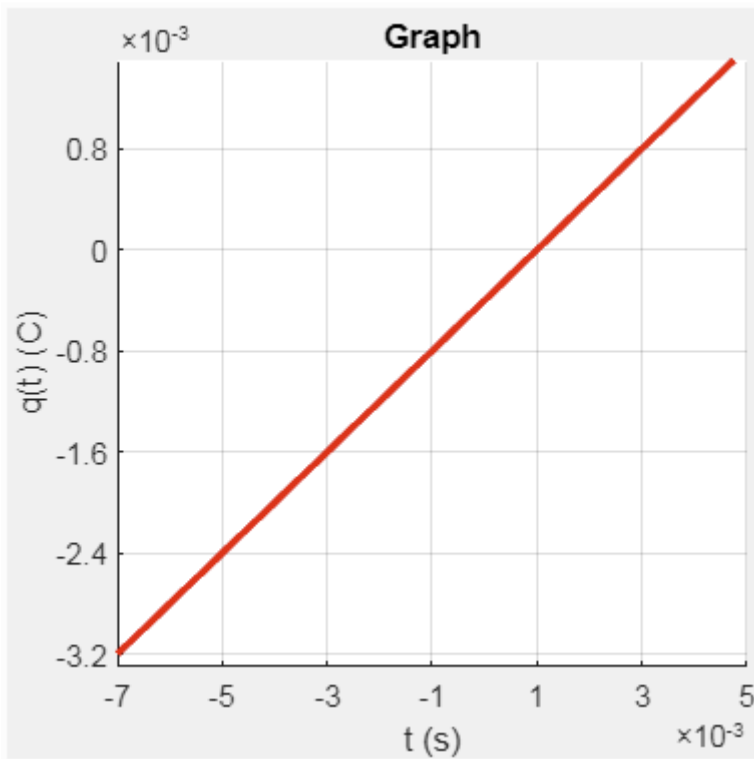
9. Compute the equation of the following line. Do not use any electronic device.



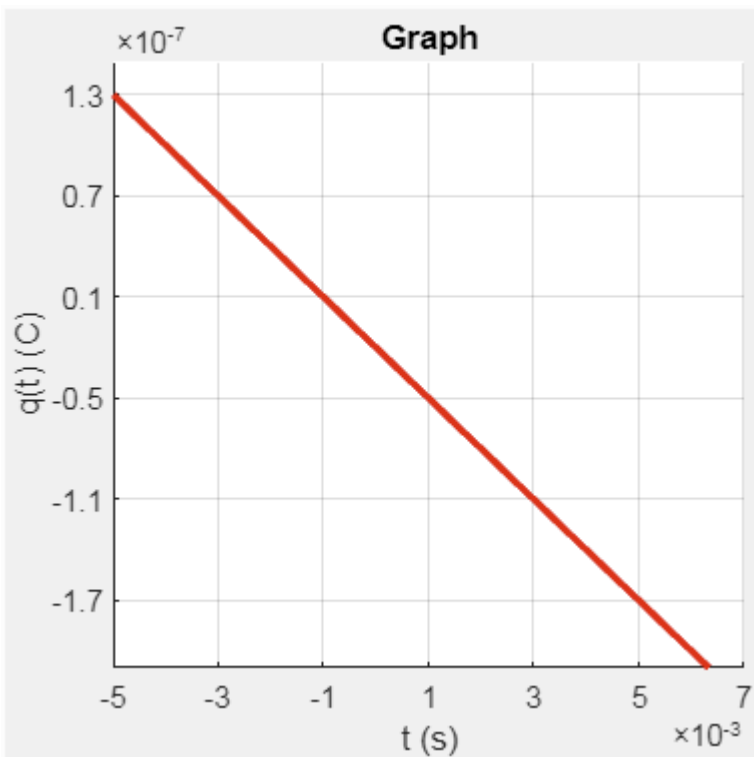
10. Compute the equation of the following line. Do not use any electronic device.



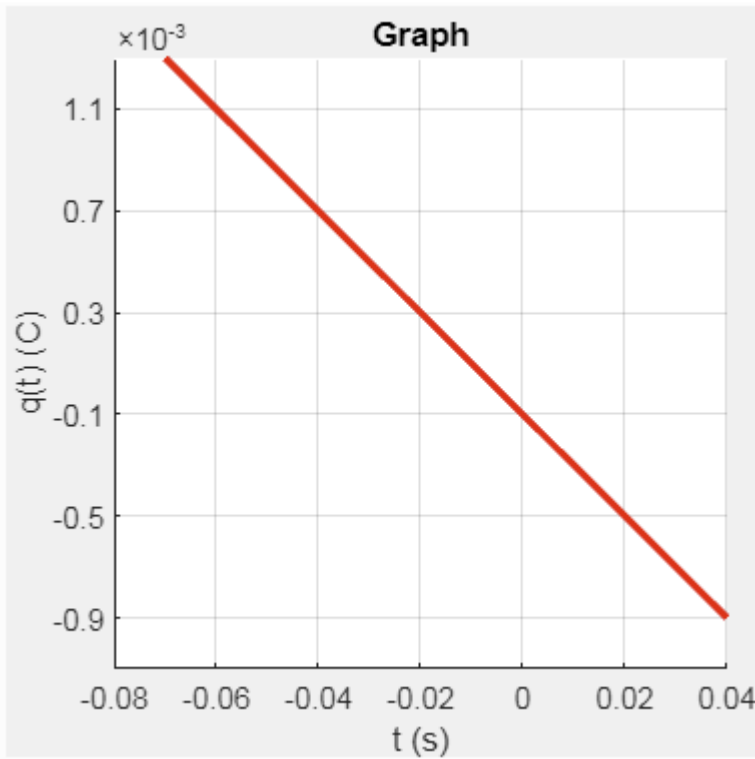
11. Compute the equation of the following line. Do not use any electronic device.



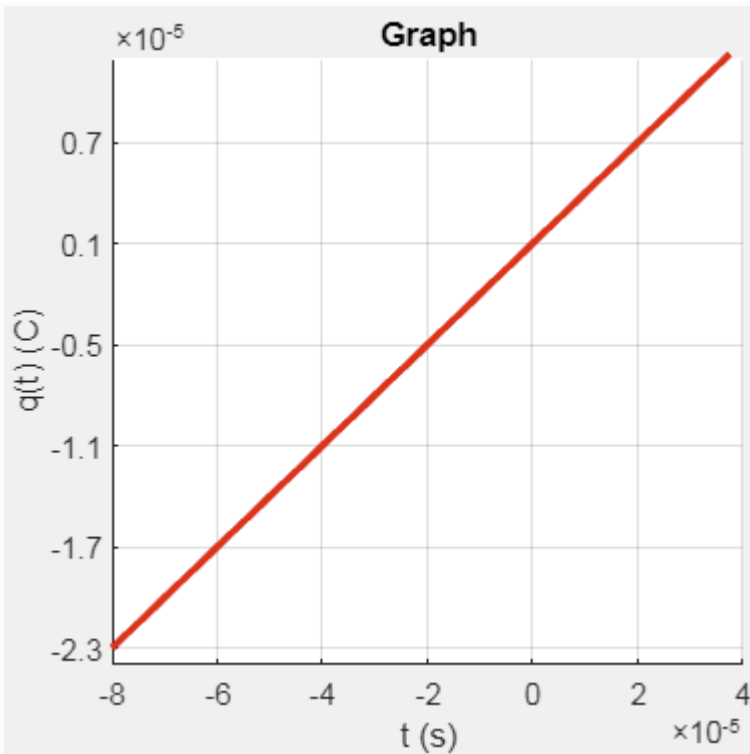
12. Compute the equation of the following line. Do not use any electronic device.



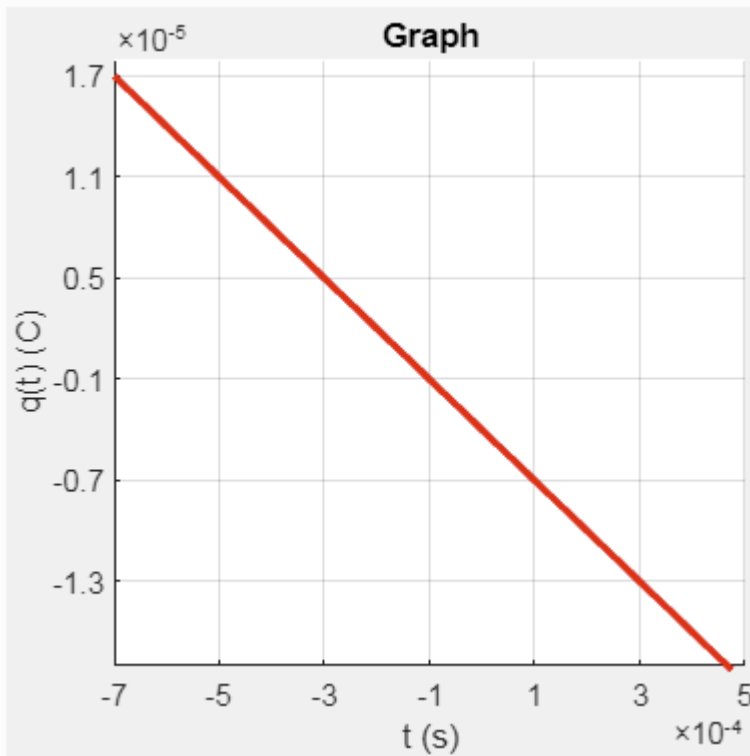
13. Compute the equation of the following line. Do not use any electronic device.



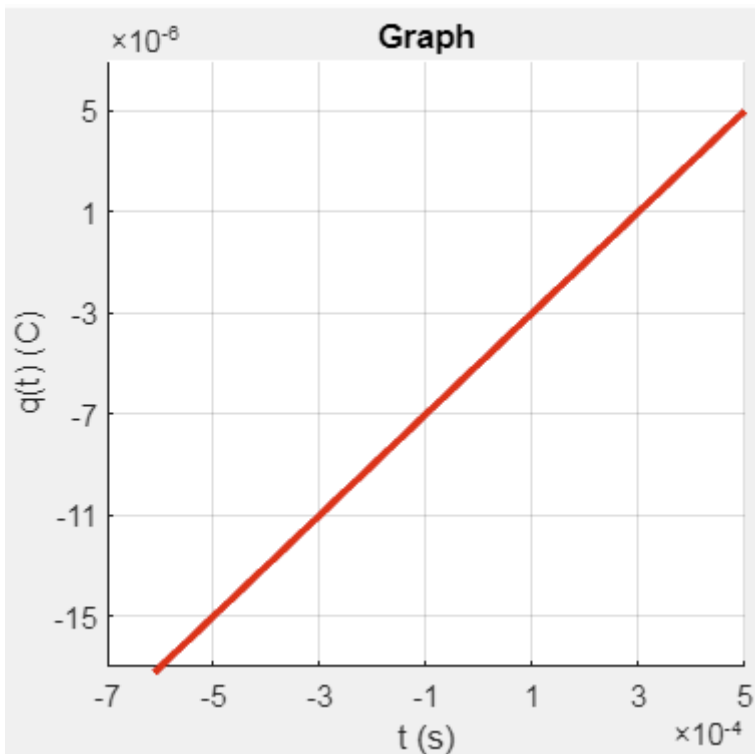
14. Compute the equation of the following line. Do not use any electronic device.



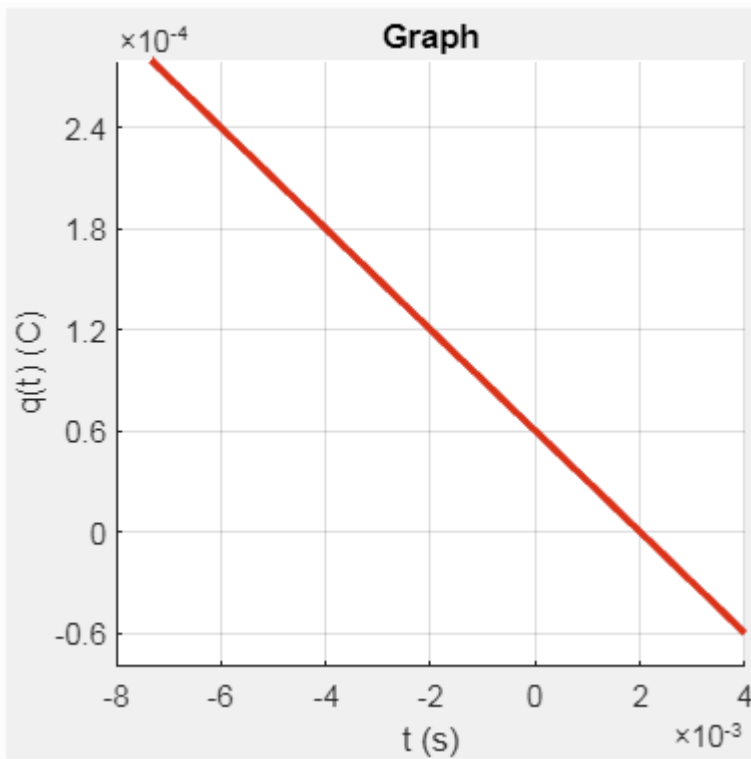
15. Compute the equation of the following line. Do not use any electronic device.



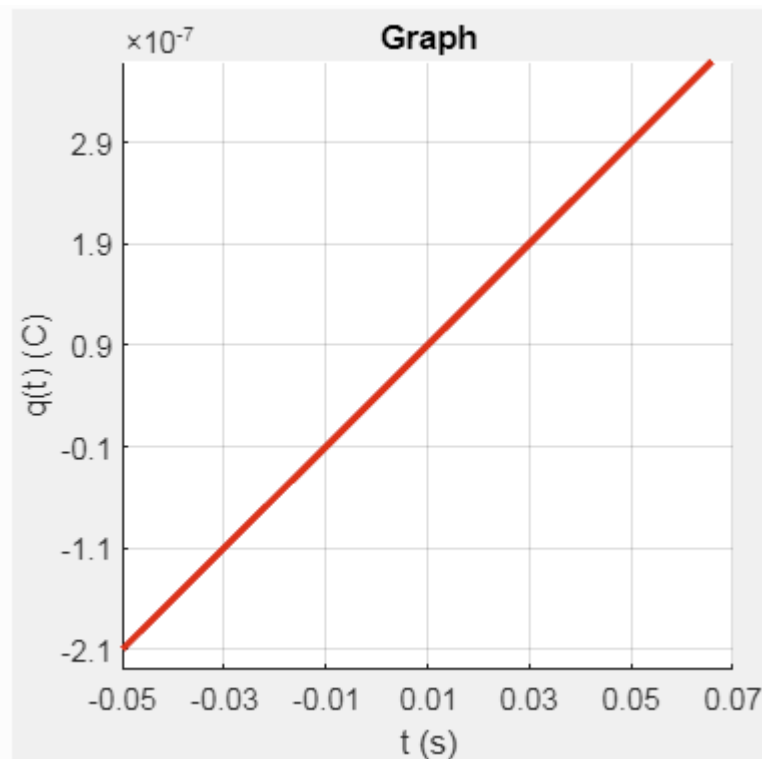
16. Compute the equation of the following line. Do not use any electronic device.



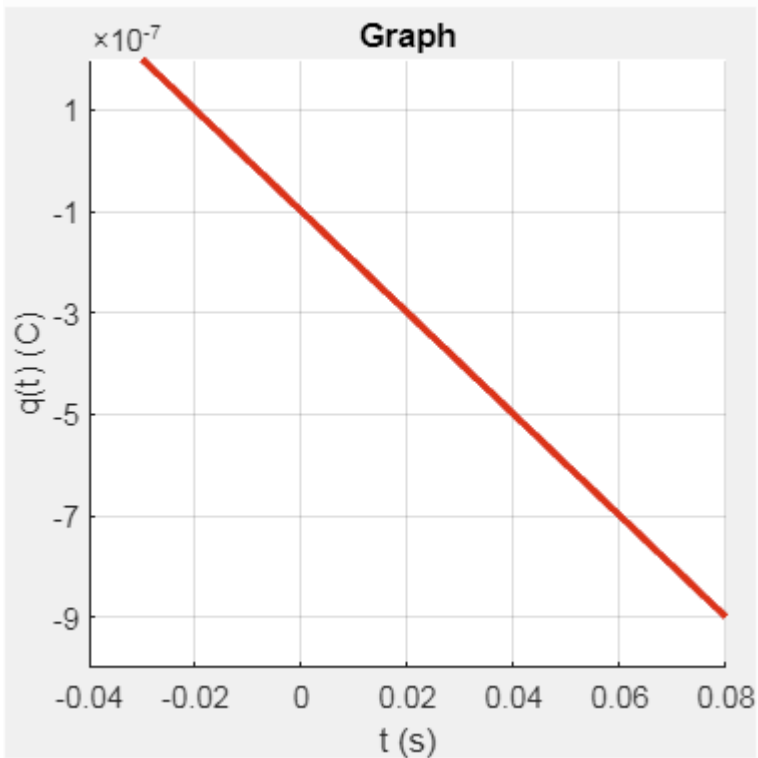
17. Compute the equation of the following line. Do not use any electronic device.



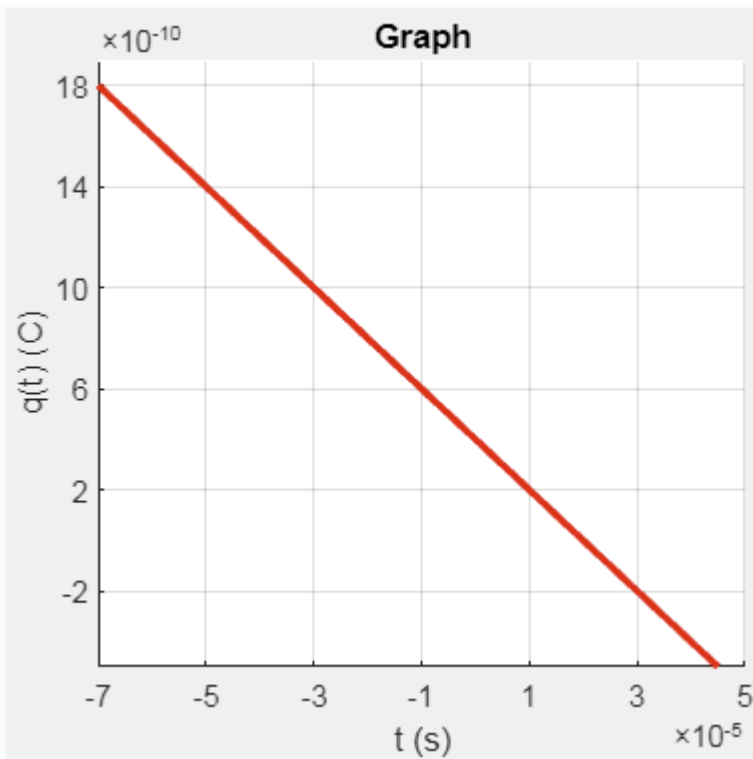
18. Compute the equation of the following line. Do not use any electronic device.



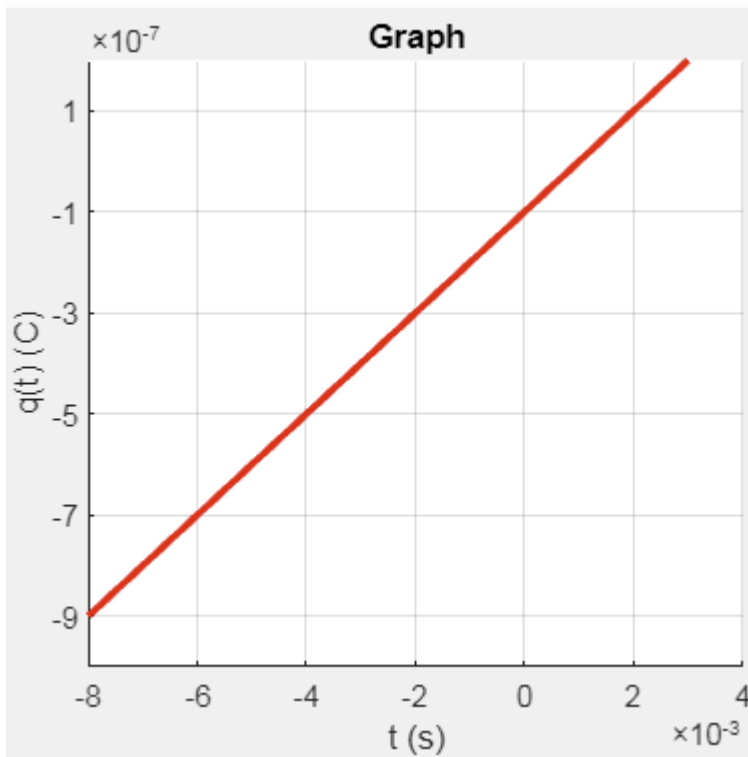
19. Compute the equation of the following line. Do not use any electronic device.



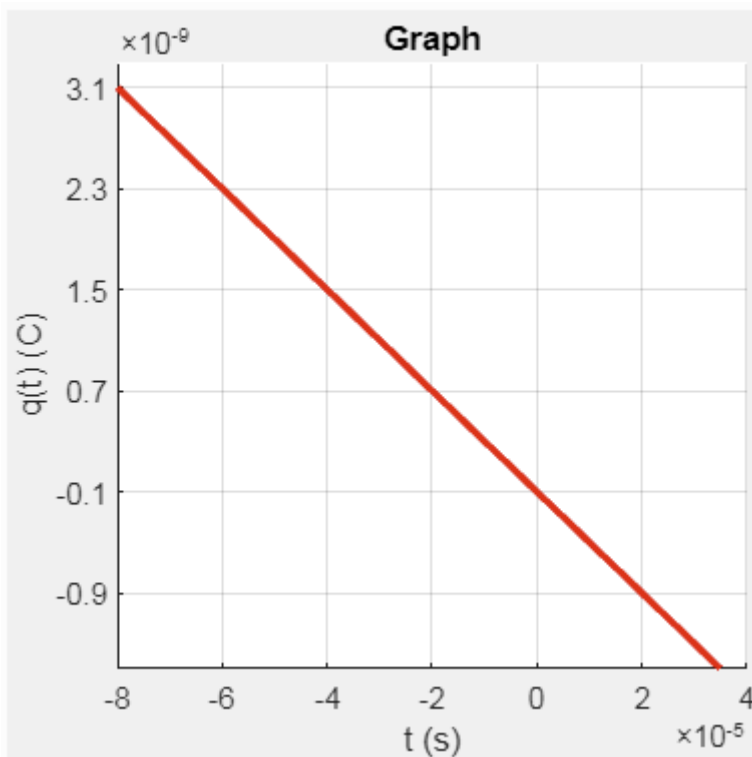
20. Compute the equation of the following line. Do not use any electronic device.



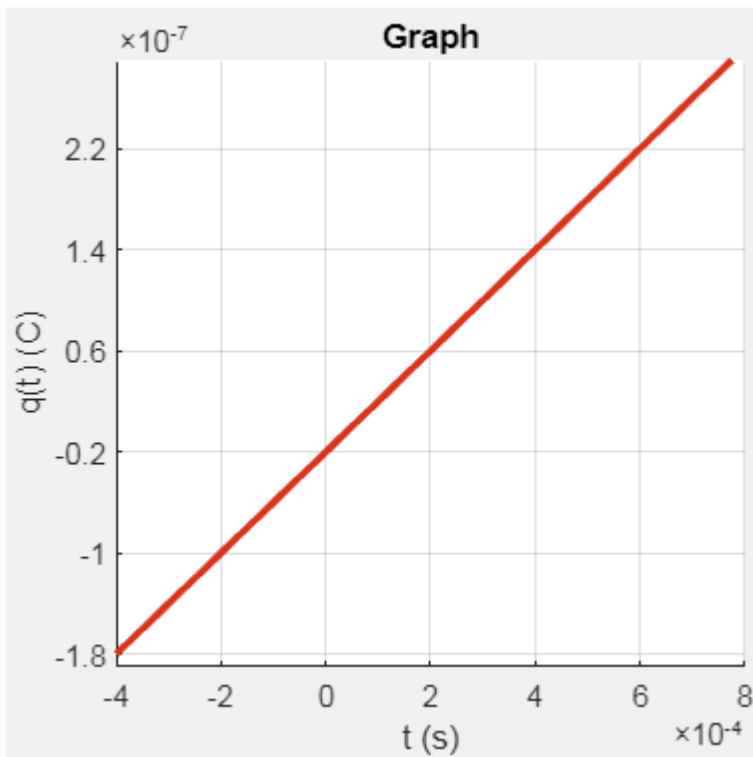
21. Compute the equation of the following line. Do not use any electronic device.



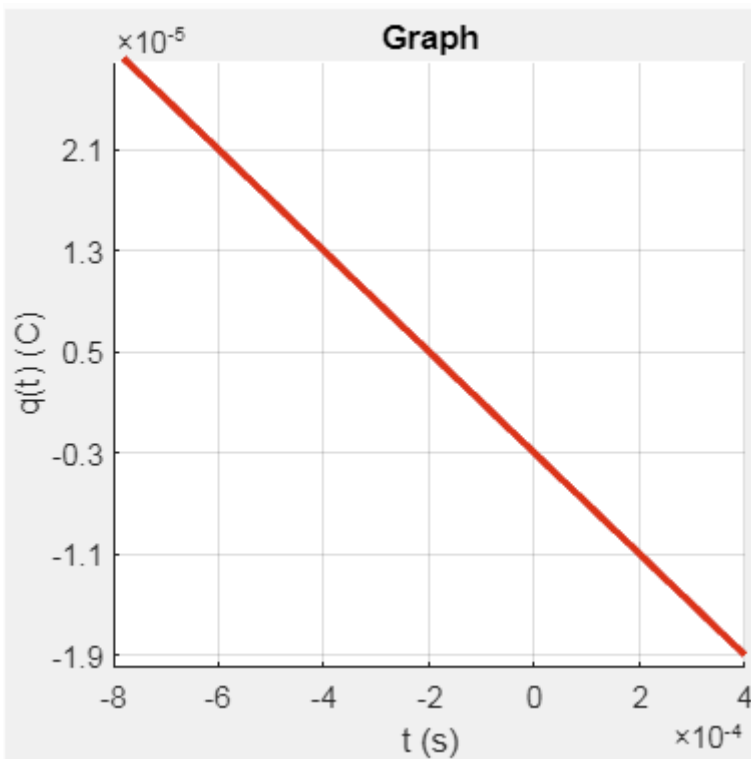
22. Compute the equation of the following line. Do not use any electronic device.



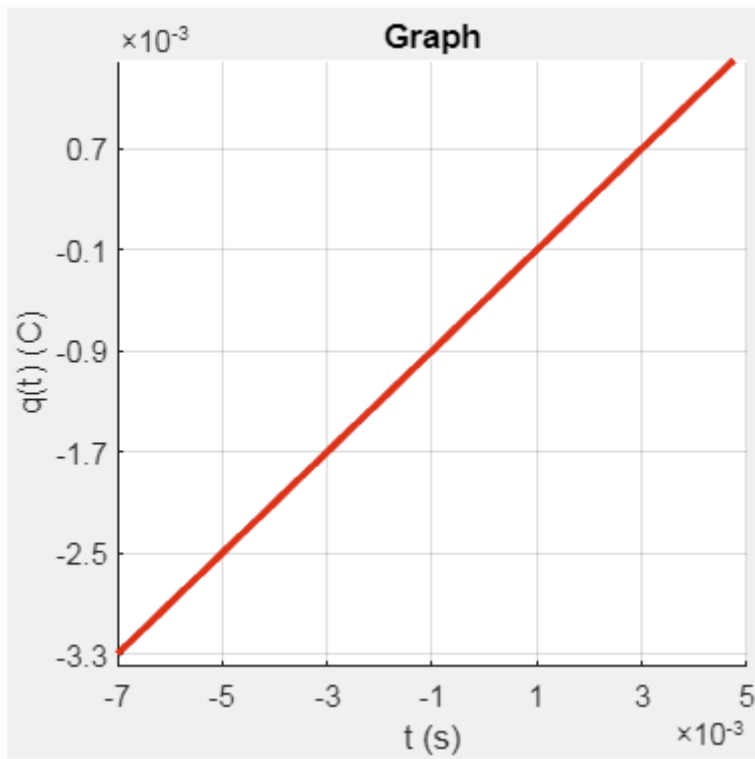
23. Compute the equation of the following line. Do not use any electronic device.



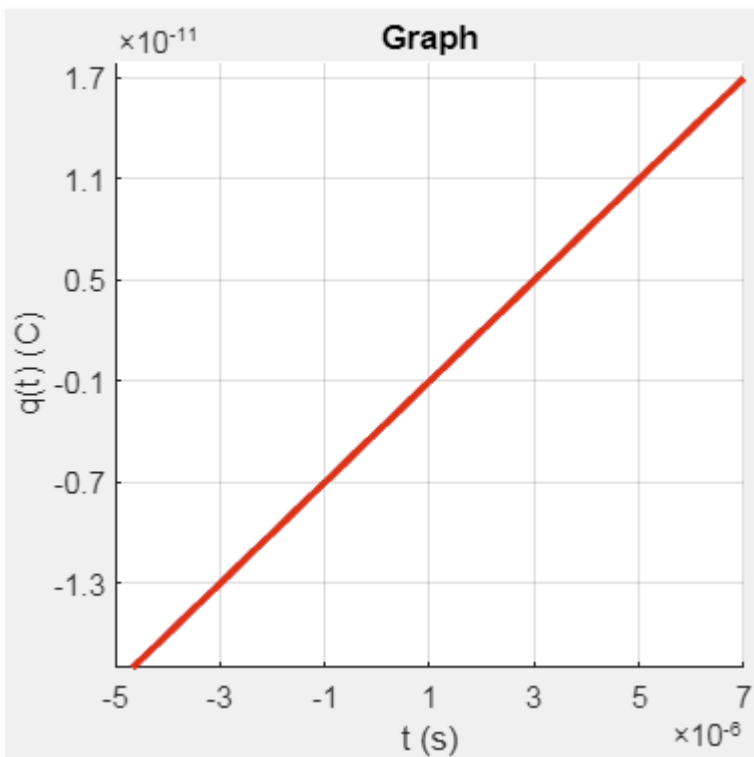
24. Compute the equation of the following line. Do not use any electronic device.



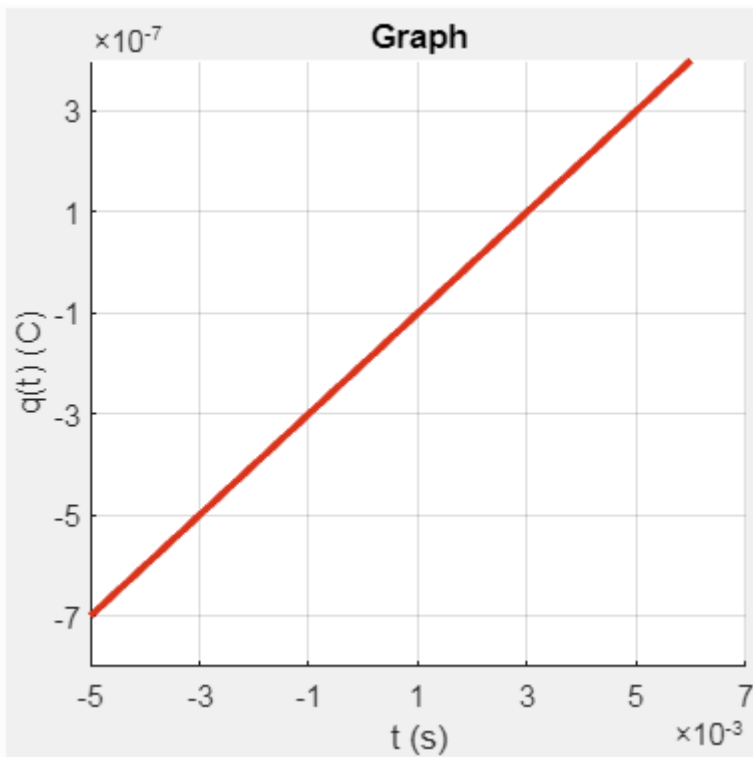
25. Compute the equation of the following line. Do not use any electronic device.



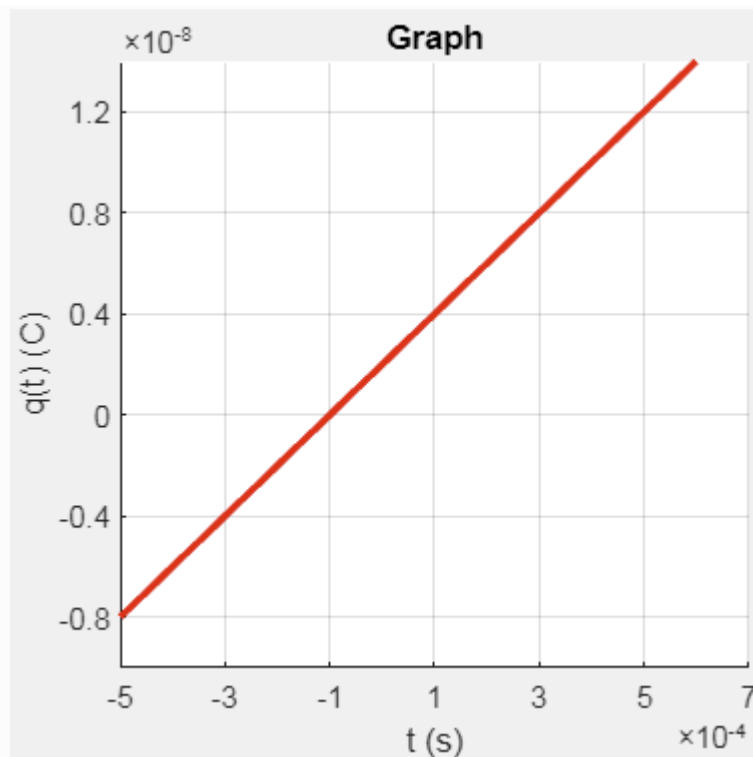
26. Compute the equation of the following line. Do not use any electronic device.



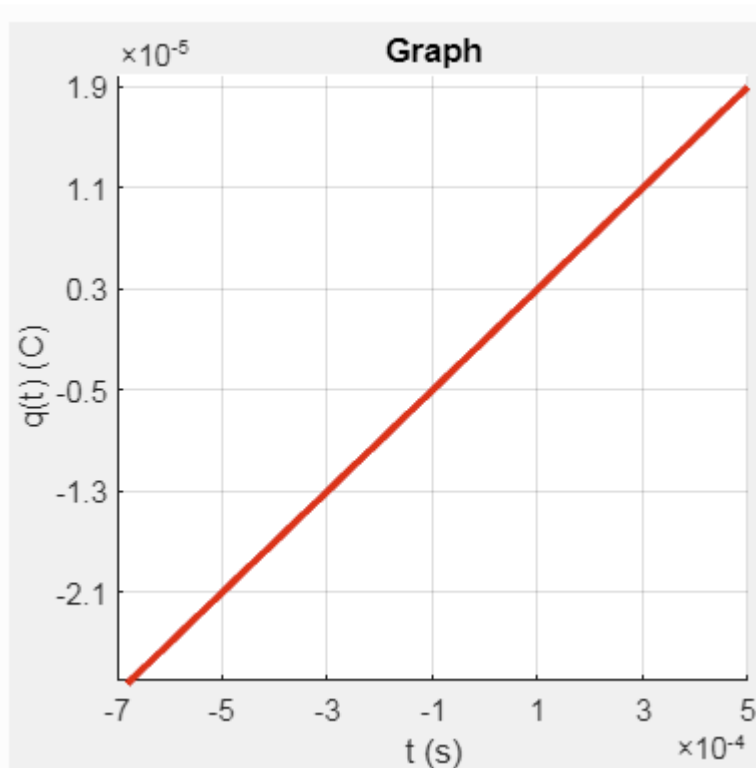
27. Compute the equation of the following line. Do not use any electronic device.



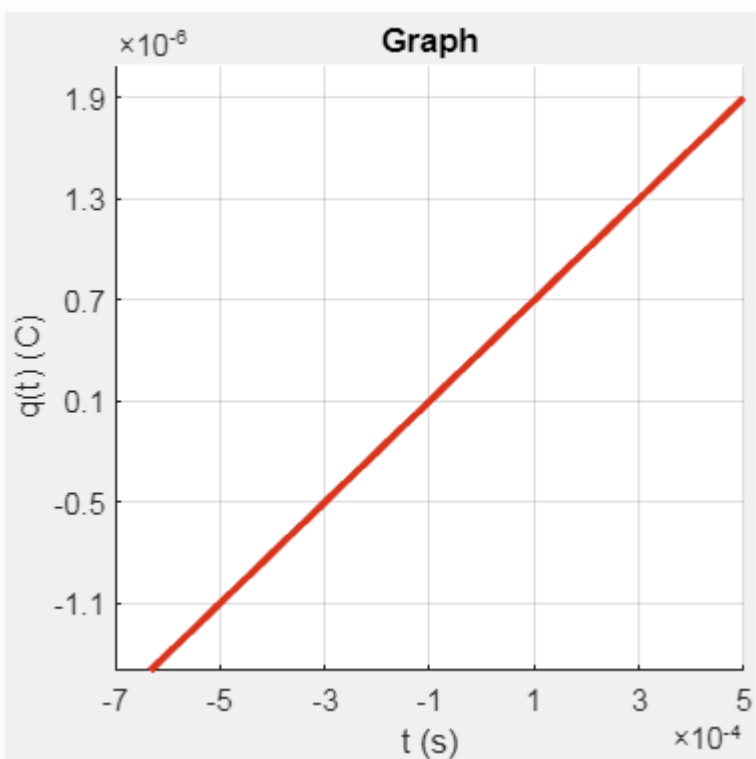
28. Compute the equation of the following line. Do not use any electronic device.



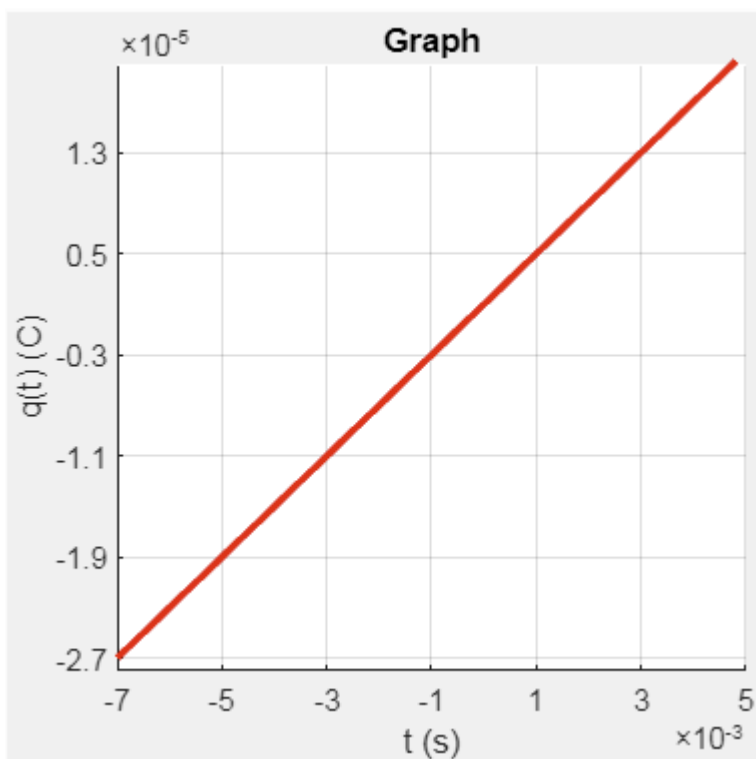
29. Compute the equation of the following line. Do not use any electronic device.



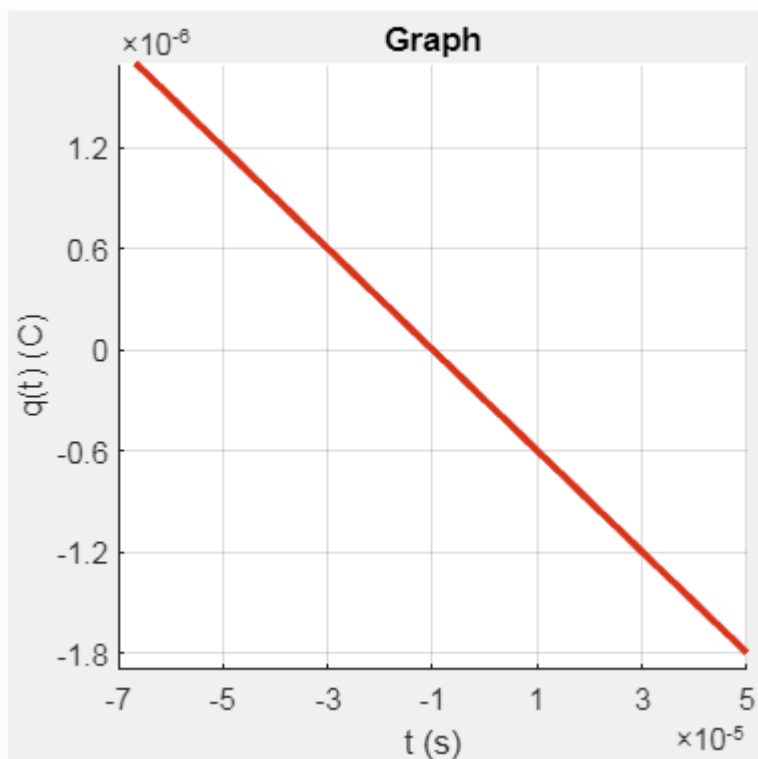
30. Compute the equation of the following line. Do not use any electronic device.



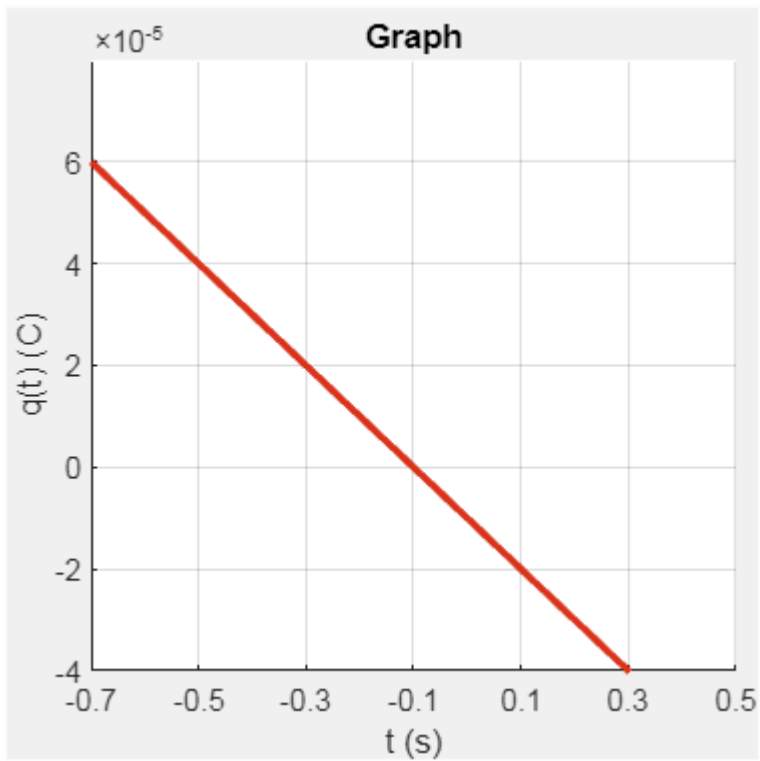
31. Compute the equation of the following line. Do not use any electronic device.



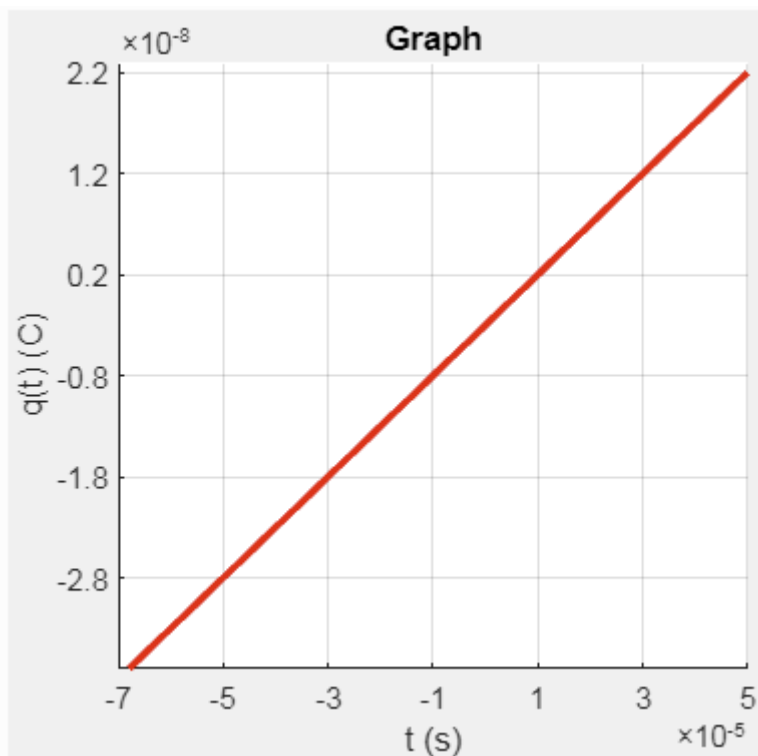
32. Compute the equation of the following line. Do not use any electronic device.



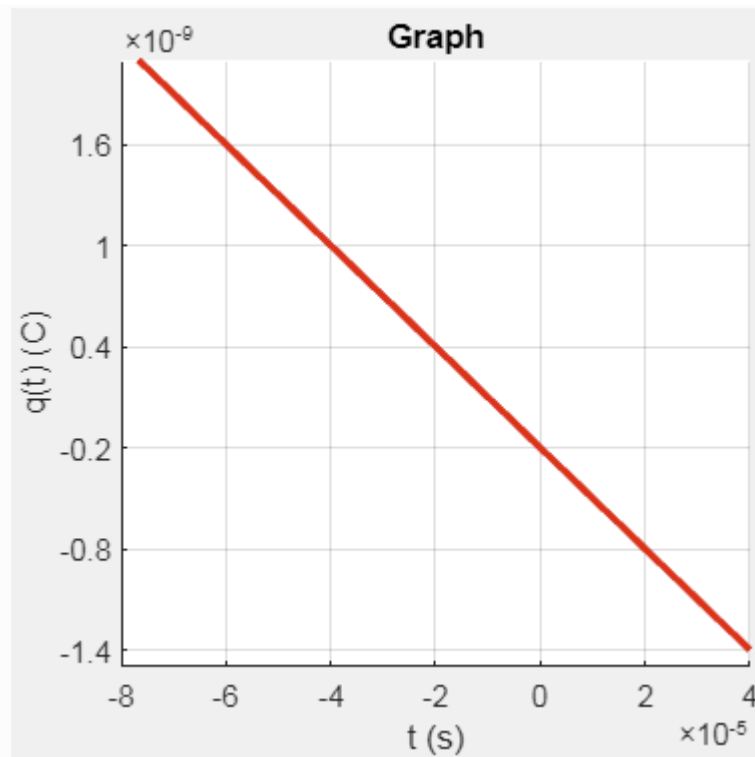
33. Compute the equation of the following line. Do not use any electronic device.



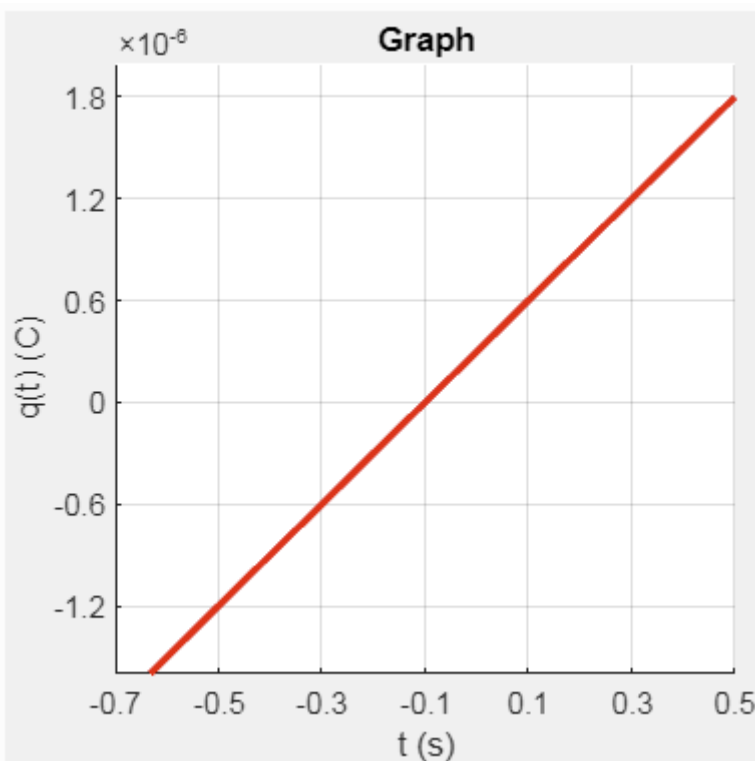
34. Compute the equation of the following line. Do not use any electronic device.



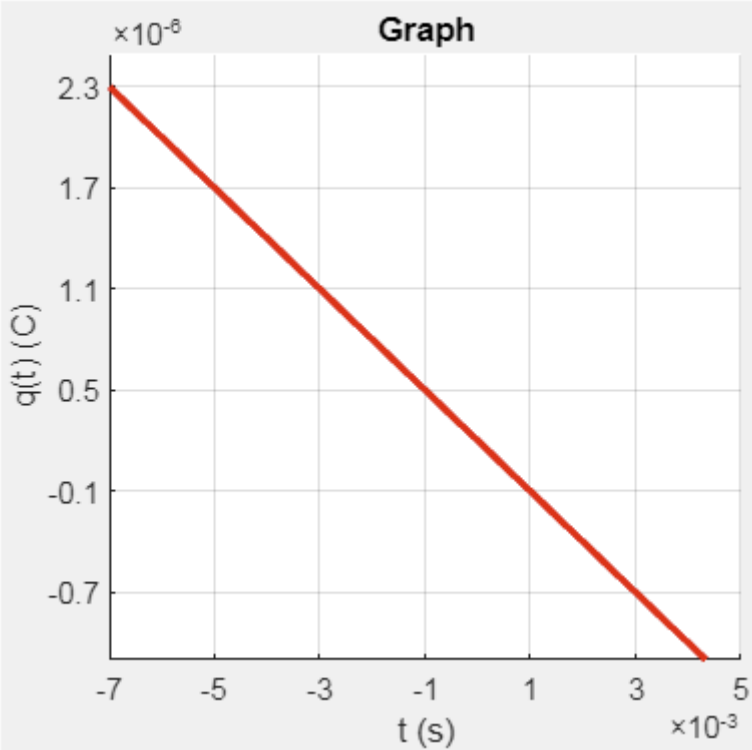
35. Compute the equation of the following line. Do not use any electronic device.



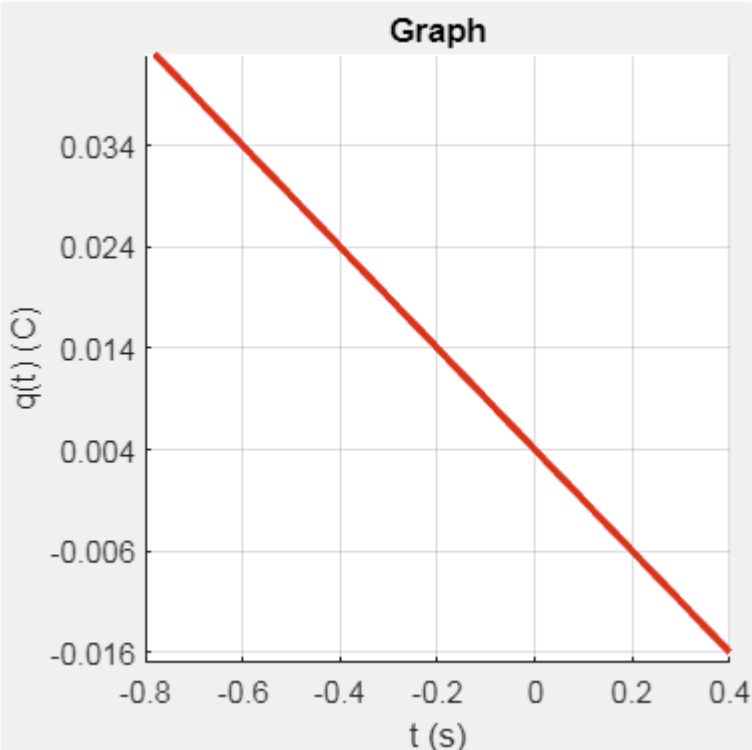
36. Compute the equation of the following line. Do not use any electronic device.



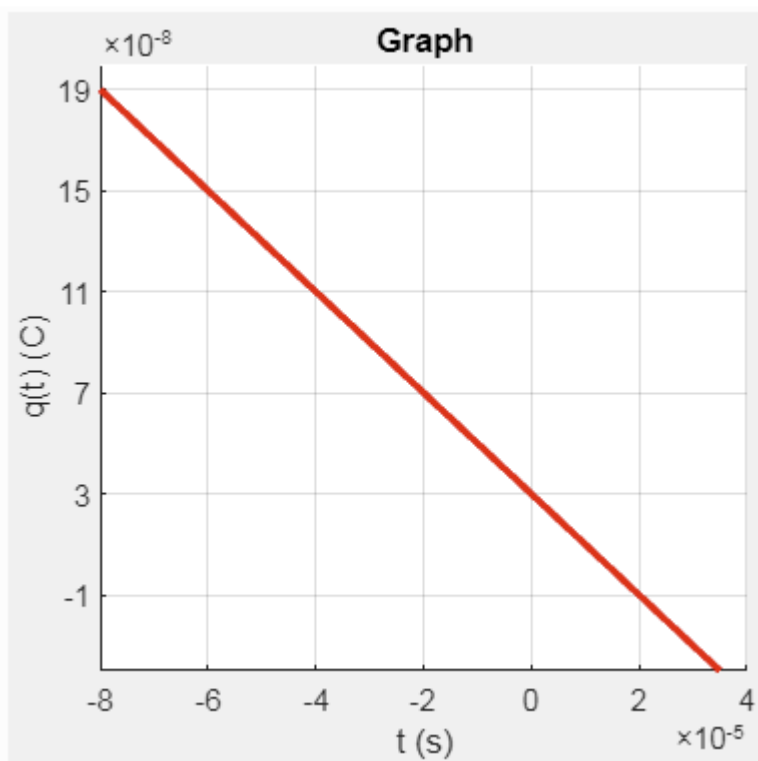
37. Compute the equation of the following line. Do not use any electronic device.



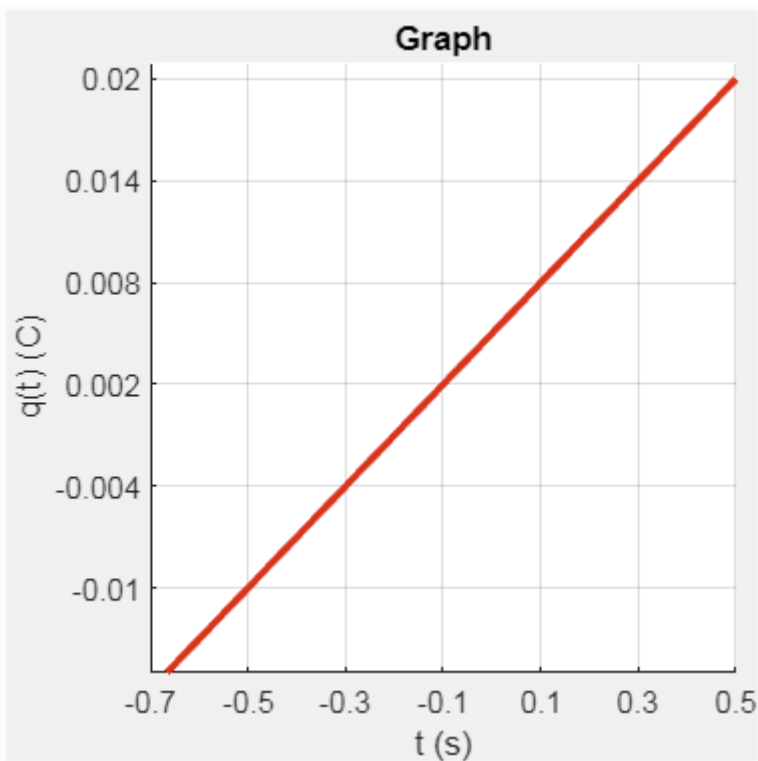
38. Compute the equation of the following line. Do not use any electronic device.



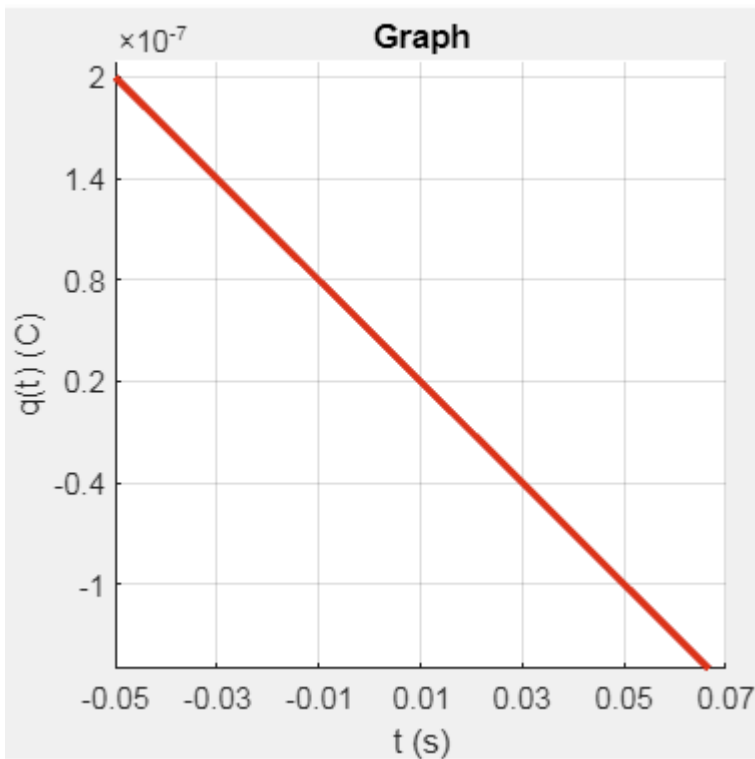
39. Compute the equation of the following line. Do not use any electronic device.



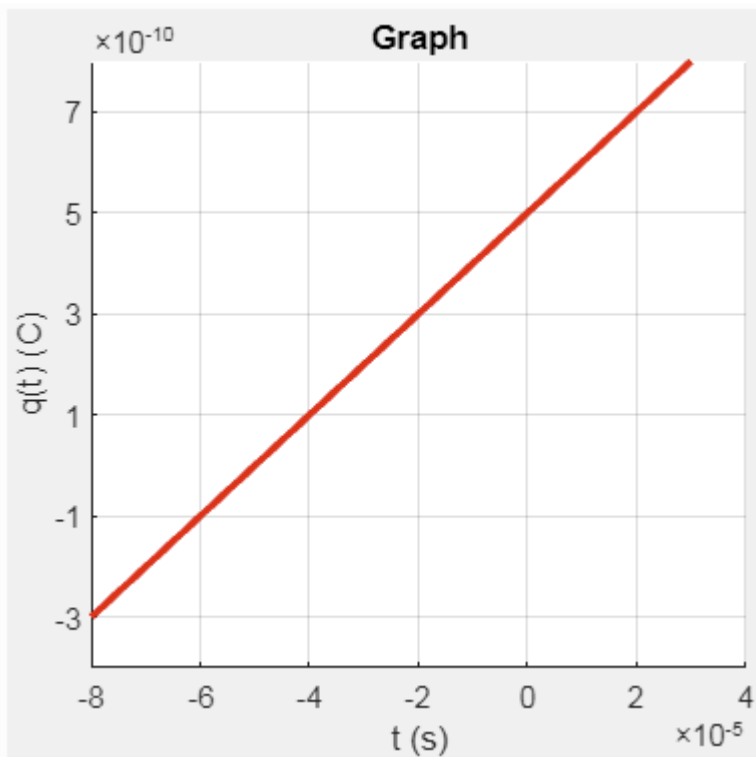
40. Compute the equation of the following line. Do not use any electronic device.



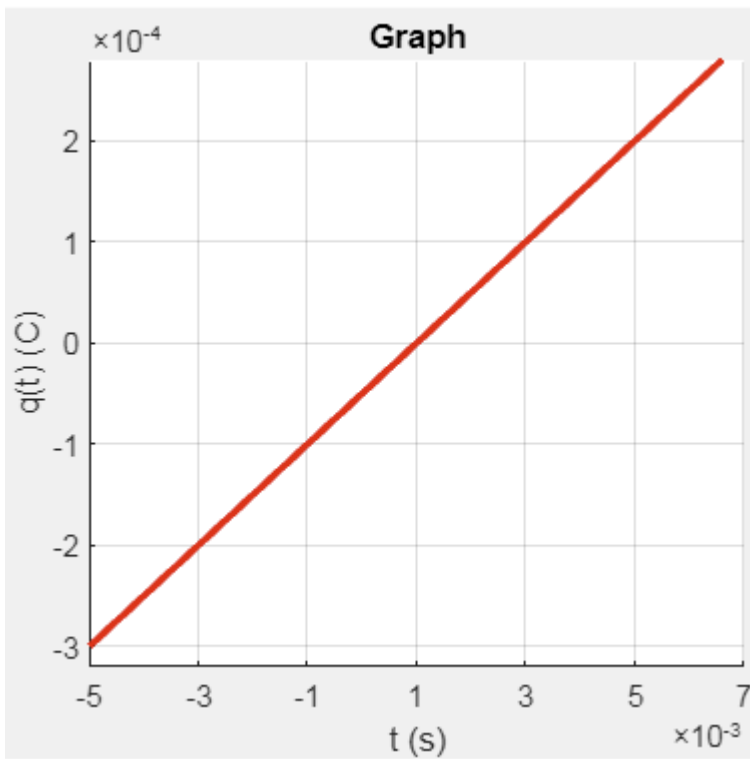
41. Compute the equation of the following line. Do not use any electronic device.



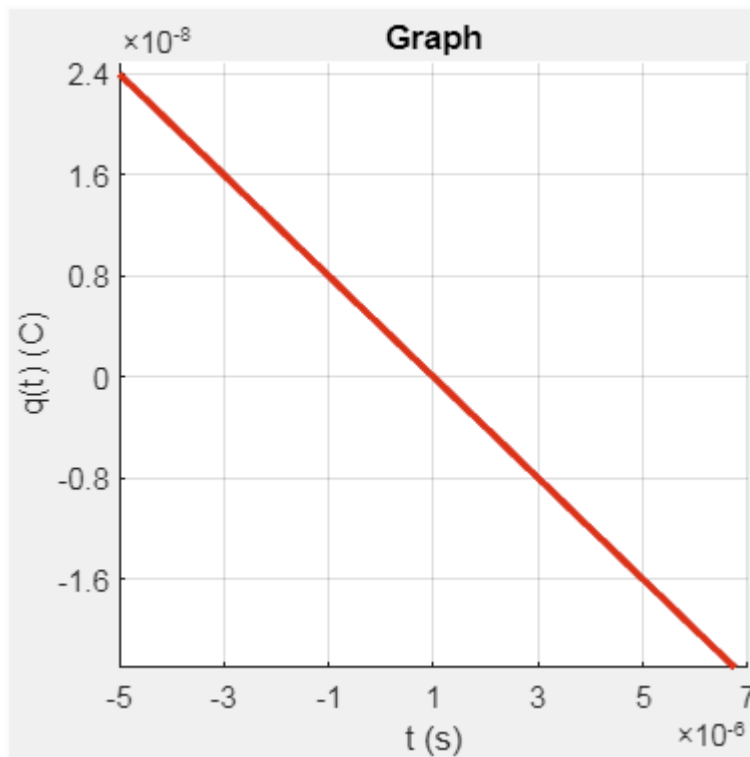
42. Compute the equation of the following line. Do not use any electronic device.



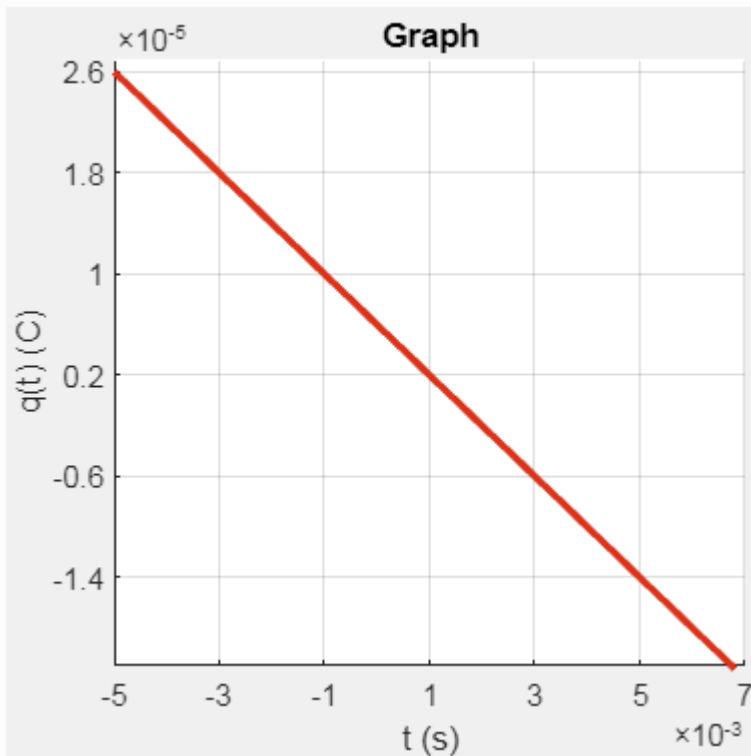
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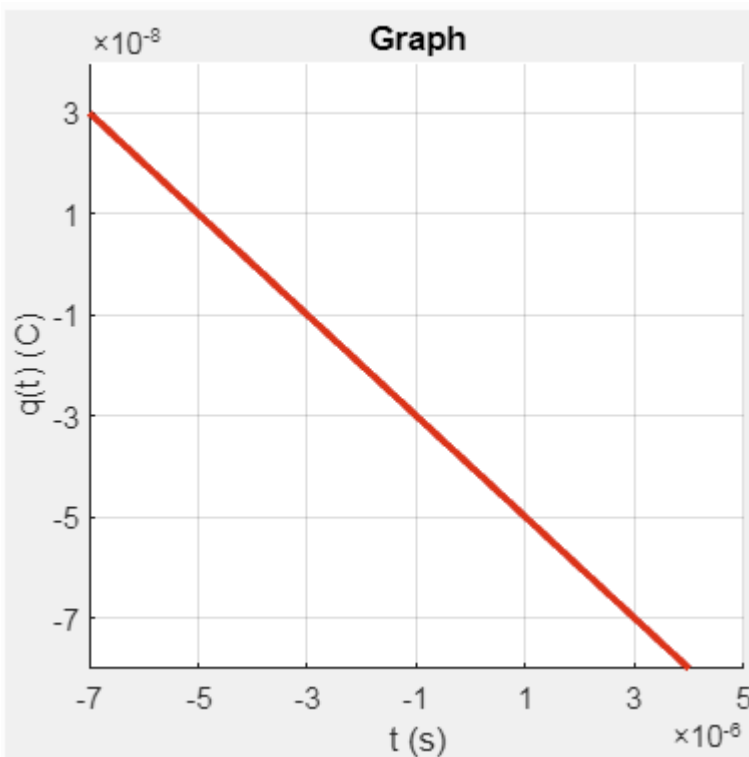
44. Compute the equation of the following line. Do not use any electronic device.



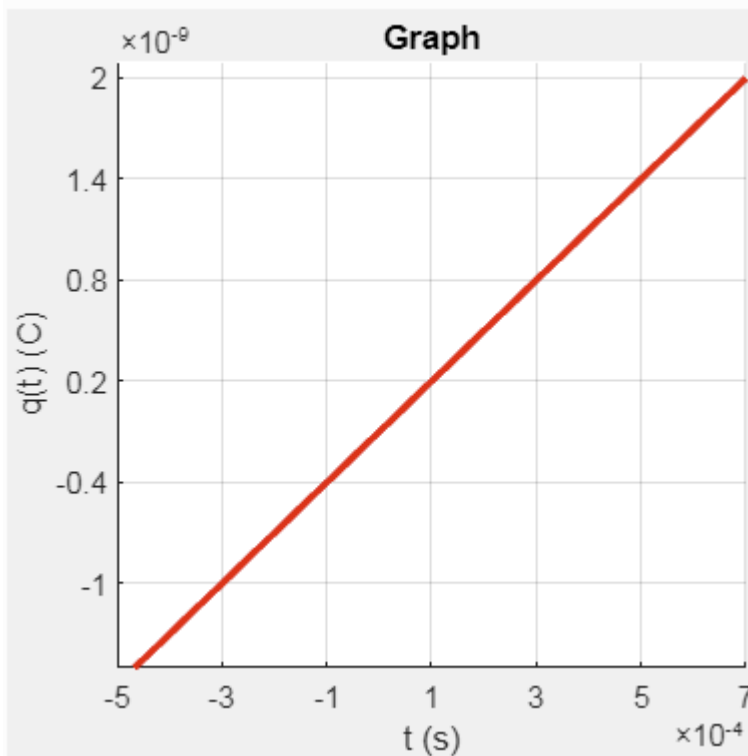
45. Compute the equation of the following line. Do not use any electronic device.



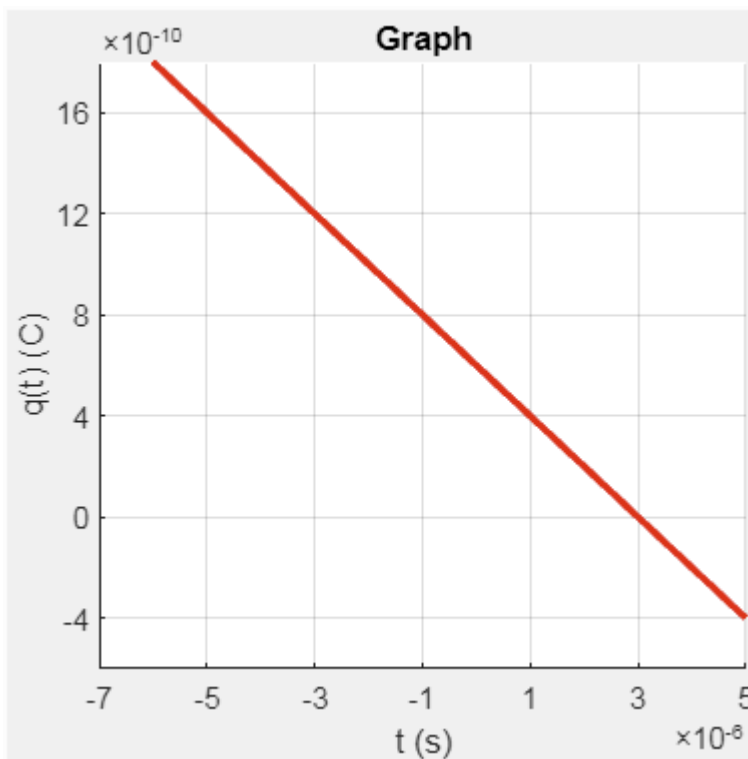
46. Compute the equation of the following line. Do not use any electronic device.



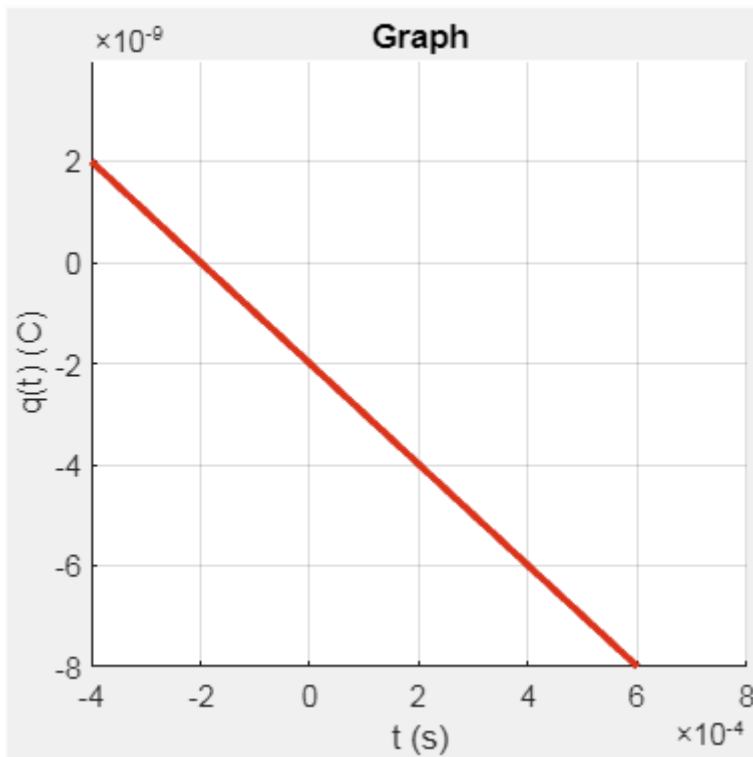
47. Compute the equation of the following line. Do not use any electronic device.



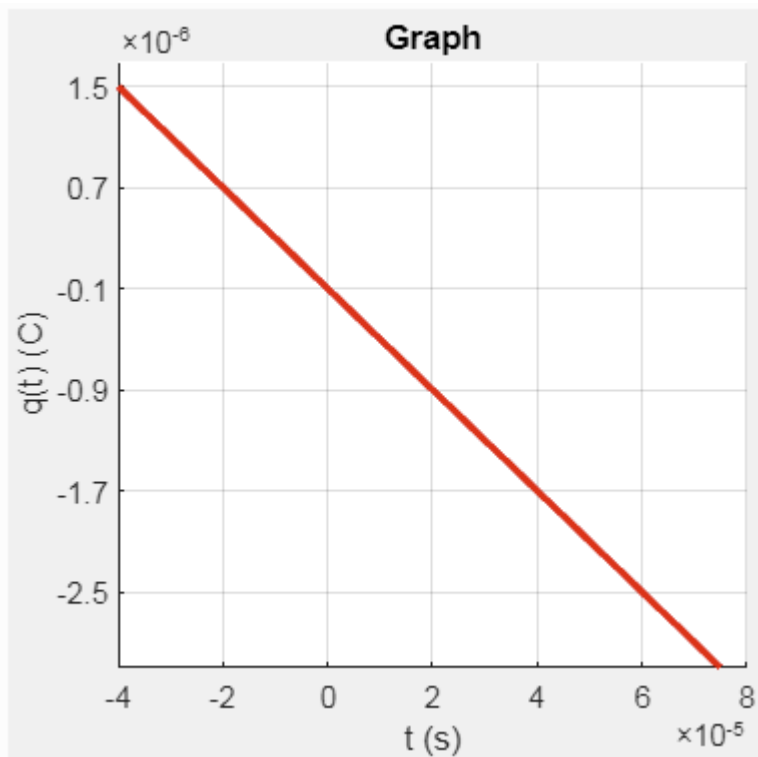
48. Compute the equation of the following line. Do not use any electronic device.



49. Compute the equation of the following line. Do not use any electronic device.



50. Compute the equation of the following line. Do not use any electronic device.



51. Plot the following equation: $q(t) = 0,4mt - 2n (C)$. Do not use any electronic device.
52. Plot the following equation: $q(t) = 0,3mt - 20\mu (C)$. Do not use any electronic device.
53. Plot the following equation: $q(t) = 2 \times 10^{-4}t - 0,5 \times 10^{-5} (C)$. Do not use any electronic device.
54. Plot the following equation: $q(t) = 0,5 \times 10^{-4}t + 0,3 \times 10^{-8} (C)$. Do not use any electronic device.
55. Plot the following equation: $q(t) = -0,3mt - 2n (C)$. Do not use any electronic device.
56. Plot the following equation: $q(t) = 4mt + 0,5\mu (C)$. Do not use any electronic device.
57. Plot the following equation: $q(t) = 0,2 \times 10^{-2}t + 0,2 \times 10^{-7} (C)$. Do not use any electronic device.
58. Plot the following equation: $q(t) = -0,3 \times 10^{-1}t - 0,3 \times 10^{-7} (C)$. Do not use any electronic device.
59. Plot the following equation: $q(t) = -400\mu t - 200p (C)$. Do not use any electronic device.
60. Plot the following equation: $q(t) = -20\mu t - 20p (C)$. Do not use any electronic device.
61. Plot the following equation: $q(t) = 1\mu t + 3p (C)$. Do not use any electronic device.
62. Plot the following equation: $q(t) = 0,3 \times 10^{-3}t + 0,3 \times 10^{-8} (C)$. Do not use any electronic device.
63. Plot the following equation: $q(t) = 2mt + 3\mu (C)$. Do not use any electronic device.
64. Plot the following equation: $q(t) = -2mt - 1\mu (C)$. Do not use any electronic device.
65. Plot the following equation: $q(t) = -2mt - 500\mu (C)$. Do not use any electronic device.
66. Plot the following equation: $q(t) = 0,3 \times 10^{-1}t - 0,5 \times 10^{-7} (C)$. Do not use any electronic device.
67. Plot the following equation: $q(t) = 4mt + 300n (C)$. Do not use any electronic device.
68. Plot the following equation: $q(t) = 1 \times 10^{-4}t + 3 \times 10^{-7} (C)$. Do not use any electronic device.
69. Plot the following equation: $q(t) = 0,2t - 5m (C)$. Do not use any electronic device.

70. Plot the following equation: $q(t) = 2mt - 0,2\mu (C)$. Do not use any electronic device.
71. Plot the following equation: $q(t) = 0,3 \times 10^{-4}t + 0,1 \times 10^{-8} (C)$. Do not use any electronic device.
72. Plot the following equation: $q(t) = -30mt - 0,2\mu (C)$. Do not use any electronic device.
73. Plot the following equation: $q(t) = -1 \times 10^{-5}t + 3 \times 10^{-10} (C)$. Do not use any electronic device.
74. Plot the following equation: $q(t) = -1mt - 10\mu (C)$. Do not use any electronic device.
75. Plot the following equation: $q(t) = 4 \times 10^{-5}t + 4 \times 10^{-10} (C)$. Do not use any electronic device.
76. Plot the following equation: $q(t) = -4mt - 0,1\mu (C)$. Do not use any electronic device.
77. Plot the following equation: $q(t) = 3mt - 400n (C)$. Do not use any electronic device.
78. Plot the following equation: $q(t) = -1mt - 50\mu (C)$. Do not use any electronic device.
79. Plot the following equation: $q(t) = -4\mu t - 40p (C)$. Do not use any electronic device.
80. Plot the following equation: $q(t) = -0,2 \times 10^{-4}t + 0,5 \times 10^{-9} (C)$. Do not use any electronic device.
81. Plot the following equation: $q(t) = -3\mu t + 0,2\mu (C)$. Do not use any electronic device.
82. Plot the following equation: $q(t) = 0,1t - 3\mu (C)$. Do not use any electronic device.
83. Plot the following equation: $q(t) = -0,1t + 10\mu (C)$. Do not use any electronic device.
84. Plot the following equation: $q(t) = 3 \times 10^{-2}t + 2 \times 10^{-6} (C)$. Do not use any electronic device.
85. Plot the following equation: $q(t) = 1 \times 10^{-4}t - 1 \times 10^{-9} (C)$. Do not use any electronic device.
86. Plot the following equation: $q(t) = -1 \times 10^{-4}t - 6 \times 10^{-9} (C)$. Do not use any electronic device.
87. Plot the following equation: $q(t) = 0,2t - 1m (C)$. Do not use any electronic device.

88. Plot the following equation: $q(t) = 30mt - 0,5m (C)$. Do not use any electronic device.
89. Plot the following equation: $q(t) = -0,4 \times 10^{-1}t - 0,4 \times 10^{-6} (C)$. Do not use any electronic device.
90. Plot the following equation: $q(t) = 2 \times 10^{-5}t + 0,2 \times 10^{-5} (C)$. Do not use any electronic device.
91. Plot the following equation: $q(t) = 20\mu t - 20n (C)$. Do not use any electronic device.
92. Plot the following equation: $q(t) = -0,5t + 0,5m (C)$. Do not use any electronic device.
93. Plot the following equation: $q(t) = 3mt - 0,3\mu (C)$. Do not use any electronic device.
94. Plot the following equation: $q(t) = -40mt + 300\mu (C)$. Do not use any electronic device.
95. Plot the following equation: $q(t) = -20mt + 400\mu (C)$. Do not use any electronic device.
96. Plot the following equation: $q(t) = -1\mu t + 20n (C)$. Do not use any electronic device.
97. Plot the following equation: $q(t) = -3mt - 1\mu (C)$. Do not use any electronic device.
98. Plot the following equation: $q(t) = -10\mu t - 200n (C)$. Do not use any electronic device.
99. Plot the following equation: $q(t) = 10\mu t - 3\mu (C)$. Do not use any electronic device.
100. Plot the following equation: $q(t) = -1\mu t - 4n (C)$. Do not use any electronic device.

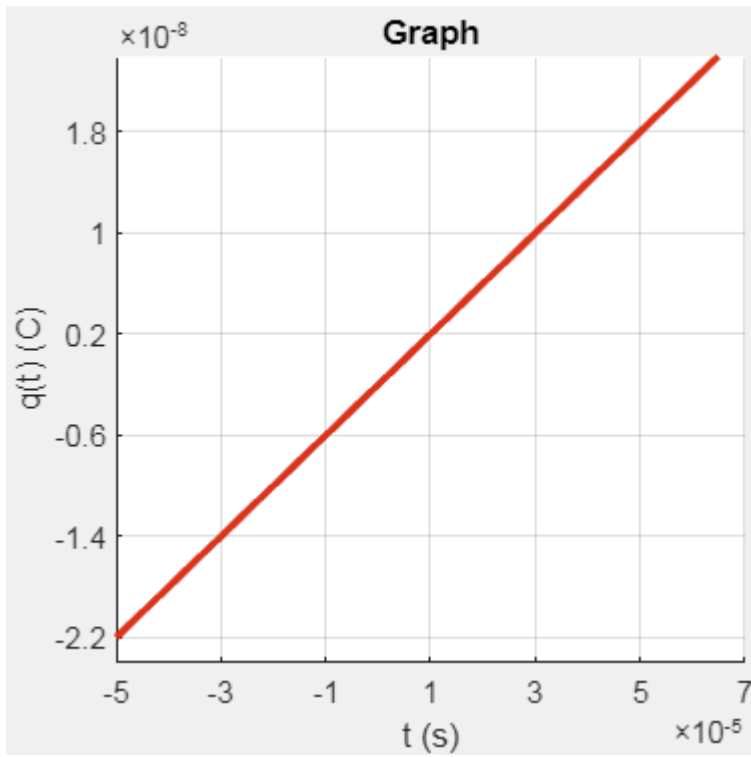
Answers:

1. $q(t) = 0,3t + 5\mu (C)$
2. $q(t) = -2mt + 0,6m (C)$
3. $q(t) = 0,5mt - 4\mu (C)$
4. $q(t) = 0,5 \times 10^{-2}t + 4 \times 10^{-9} (C)$
5. $q(t) = \frac{1}{40}t + 2\mu (C)$
6. $q(t) = -0,5 \times 10^{-4}t - 5 \times 10^{-11} (C)$

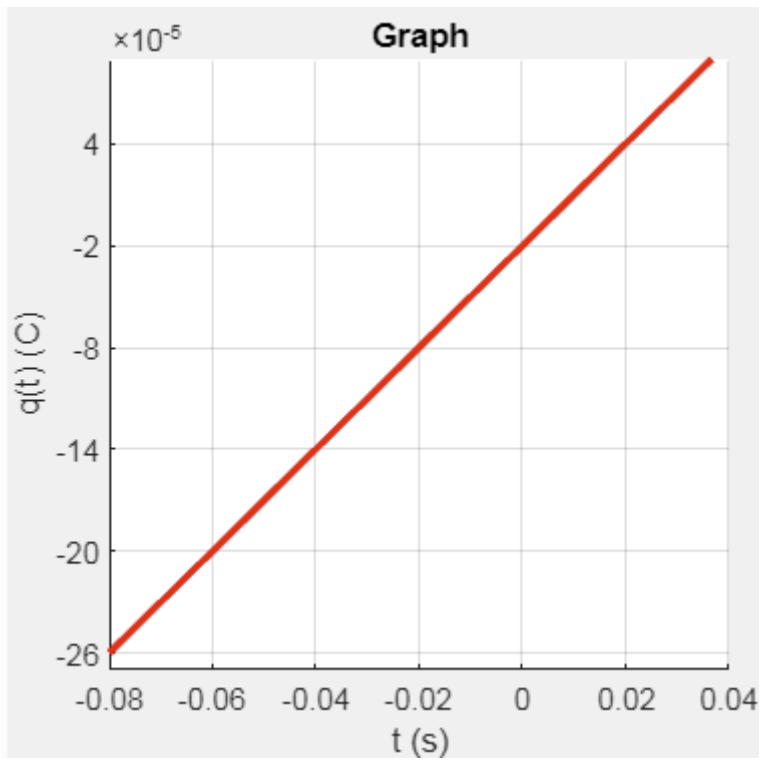
7. $q(t) = -\frac{1}{6}t - 0,1\mu (C)$
8. $q(t) = -0,25mt + 200n (C)$
9. $q(t) = -2mt - 4\mu (C)$
10. $q(t) = -2mt + 0,3n (C)$
11. $q(t) = 0,4t - 0,4m (C)$
12. $q(t) = -3 \times 10^{-5}t - 2 \times 10^{-8} (C)$
13. $q(t) = -0,2mt - 0,1m (C)$
14. $q(t) = 0,3t + 1\mu (C)$
15. $q(t) = -30mt - 4\mu (C)$
16. $q(t) = 20mt - 1\mu (C)$
17. $q(t) = -3 \times 10^{-2}t + 6 \times 10^{-5} (C)$
18. $q(t) = 5 \times 10^{-6}t + 0,4 \times 10^{-7} (C)$
19. $q(t) = -10\mu t - 0,1\mu (C)$
20. $q(t) = -2 \times 10^{-5}t + 4 \times 10^{-10} (C)$
21. $q(t) = 1 \times 10^{-4}t - 1 \times 10^{-7} (C)$
22. $q(t) = -4 \times 10^{-5}t - 1 \times 10^{-10} (C)$
23. $q(t) = 0,4 \times 10^{-3}t - 0,2 \times 10^{-7} (C)$
24. $q(t) = -4 \times 10^{-2}t - 0,3 \times 10^{-5} (C)$
25. $q(t) = 0,4t - 0,5m (C)$
26. $q(t) = 3\mu t - 4p (C)$
27. $q(t) = 1 \times 10^{-4}t - 2 \times 10^{-7} (C)$
28. $q(t) = 0,2 \times 10^{-4}t + 0,2 \times 10^{-8} (C)$
29. $q(t) = 40mt - 1\mu (C)$
30. $q(t) = 3mt + 0,4\mu (C)$
31. $q(t) = 4mt + 1\mu (C)$
32. $q(t) = -300mt - 0,3\mu (C)$
33. $q(t) = -1 \times 10^{-4}t - 1 \times 10^{-5} (C)$

34. $q(t) = 0,5mt - 3n (C)$
35. $q(t) = -300\mu t - 0,2n (C)$
36. $q(t) = 3\mu t - 0,3\mu (C)$
37. $q(t) = -0,3mt + 0,2\mu (C)$
38. $q(t) = 40mt + 4m (C)$
39. $q(t) = -2mt + 0,3n (C)$
40. $q(t) = 30mt + 5m (C)$
41. $q(t) = -3 \times 10^{-8}t + 5 \times 10^{-8} (C)$
42. $q(t) = 1 \times 10^{-5}t + 5 \times 10^{-10} (C)$
43. $q(t) = 5 \times 10^{-2}t - 5 \times 10^{-5} (C)$
44. $q(t) = -4mt + 4n (C)$
45. $q(t) = -4mt + 6\mu (C)$
46. $q(t) = -1 \times 10^{-2}t - 4 \times 10^{-8} (C)$
47. $q(t) = 3\mu t - 0,1n (C)$
48. $q(t) = -2 \times 10^{-4}t + 6 \times 10^{-10} (C)$
49. $q(t) = -10\mu t - 2n (C)$
50. $q(t) = -400mt - 0,1\mu (C)$

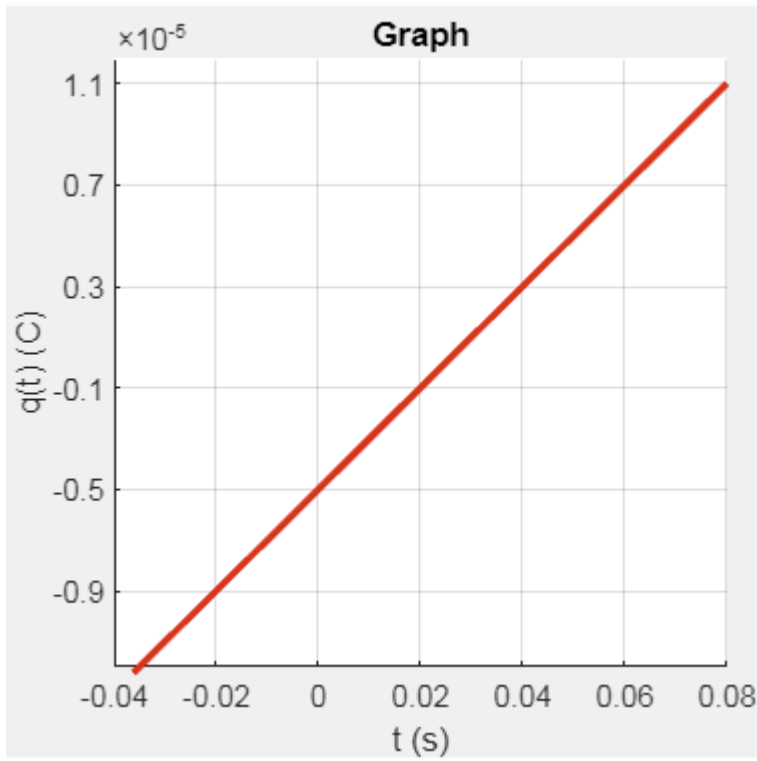
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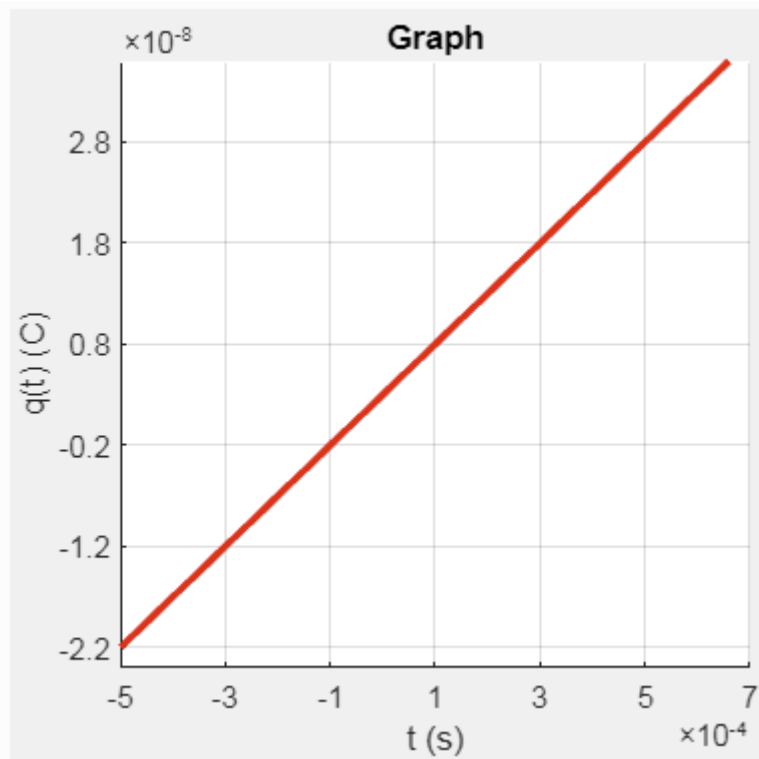
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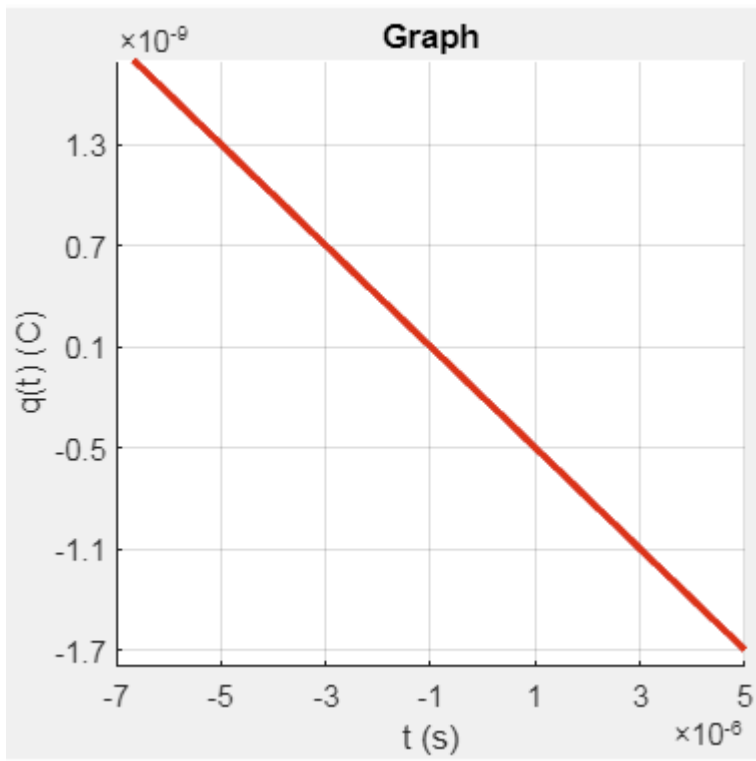
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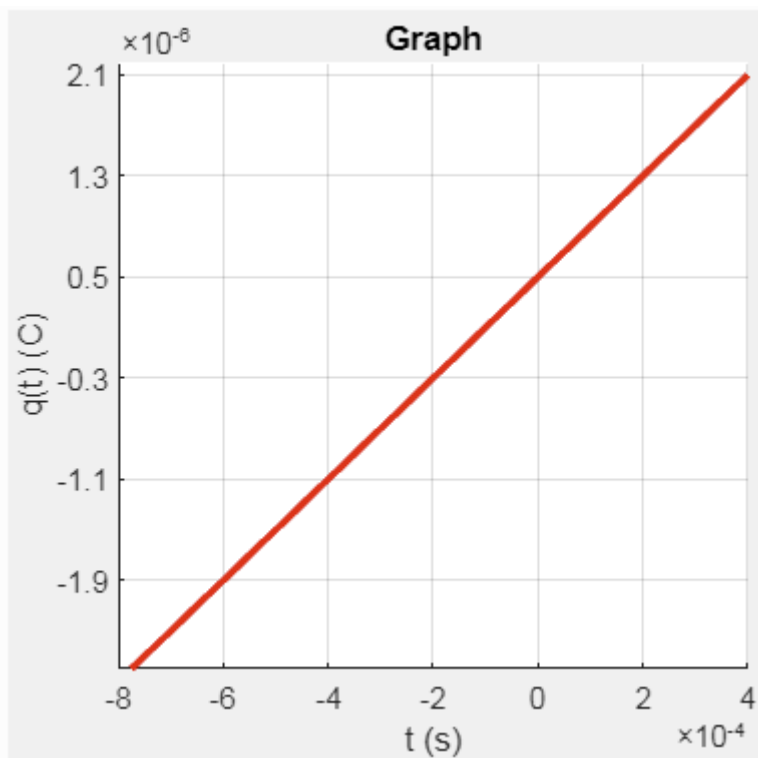
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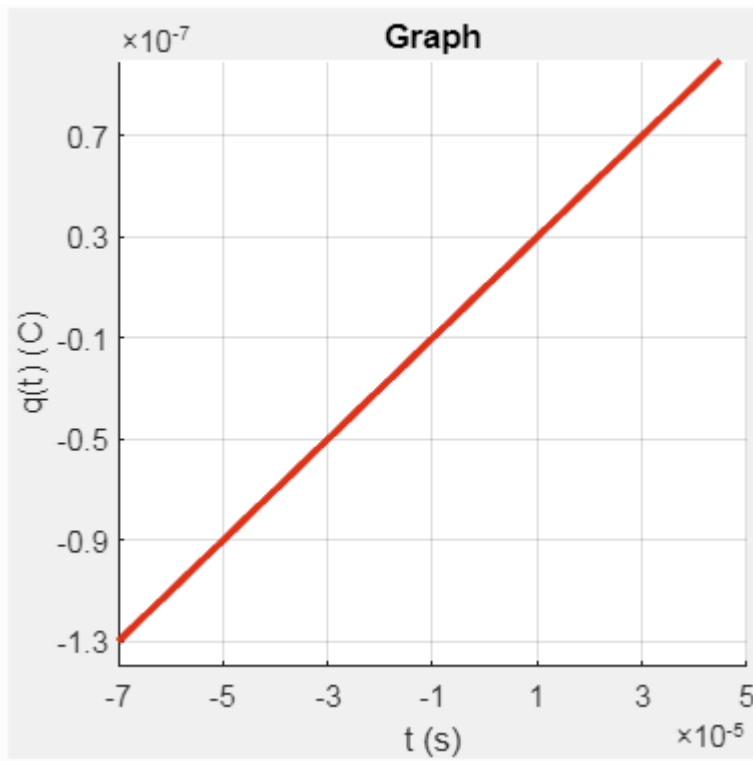
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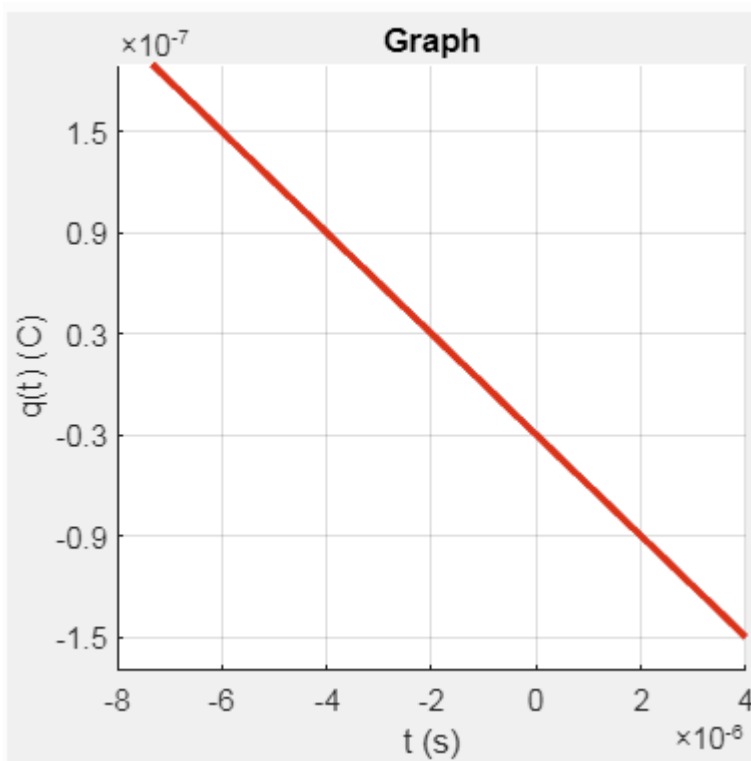
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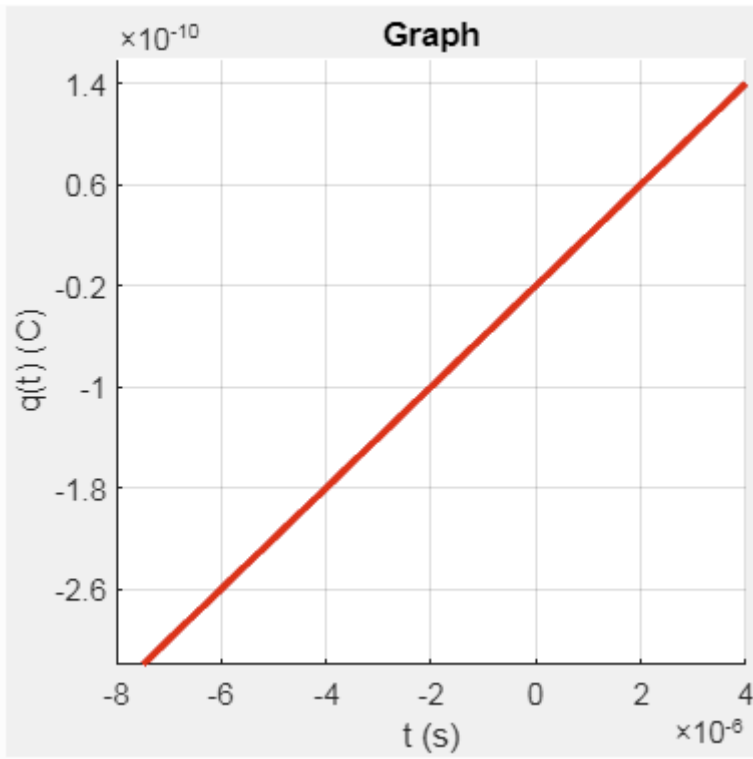
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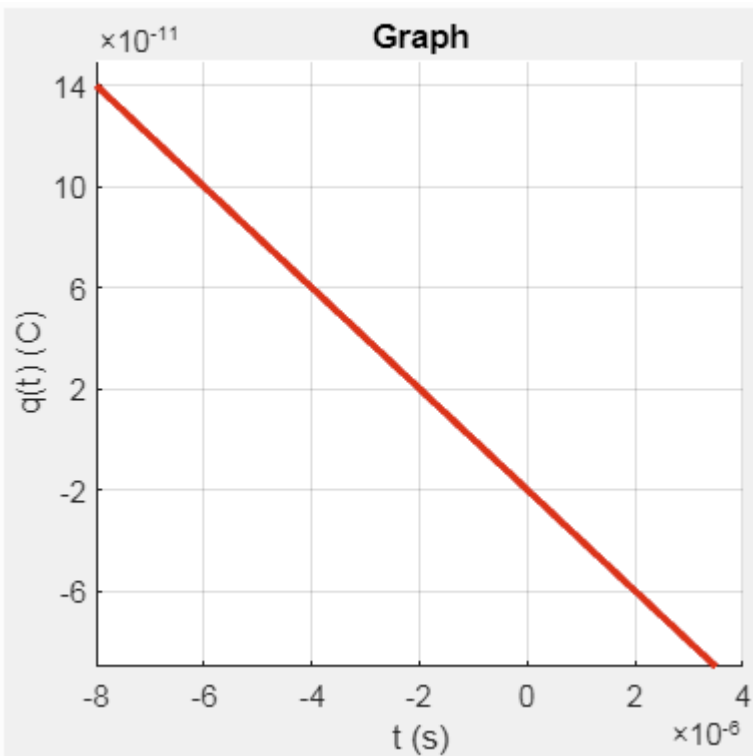
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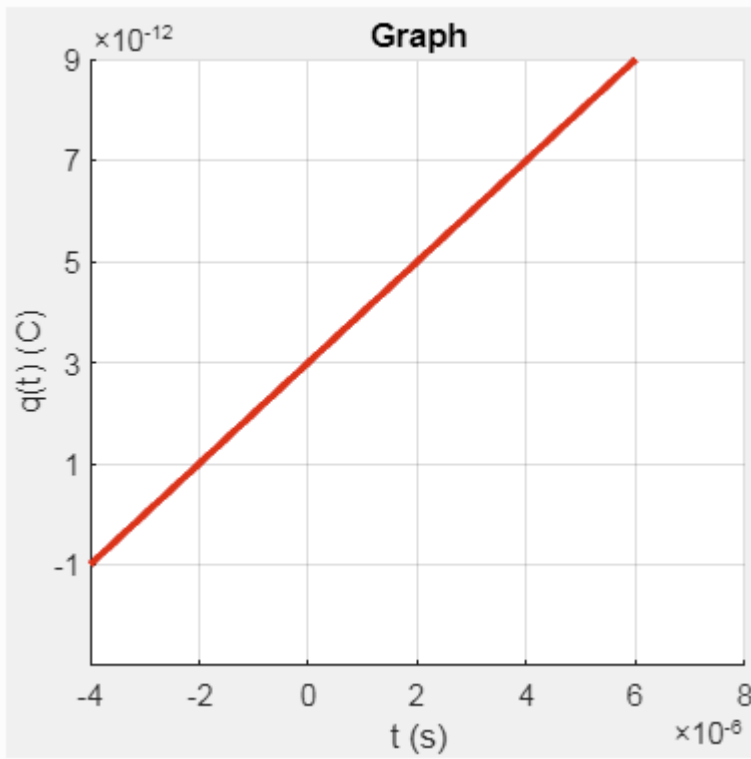
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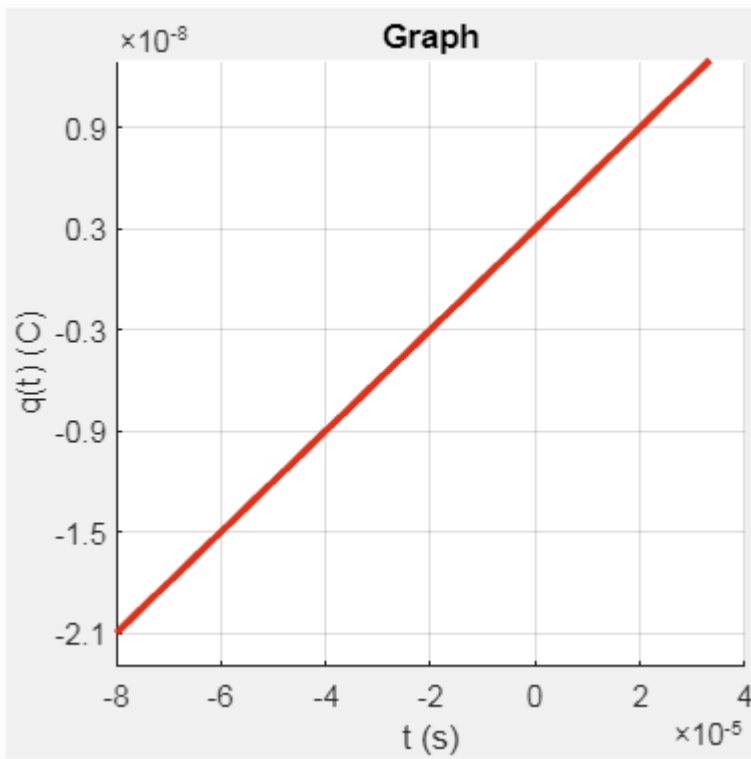
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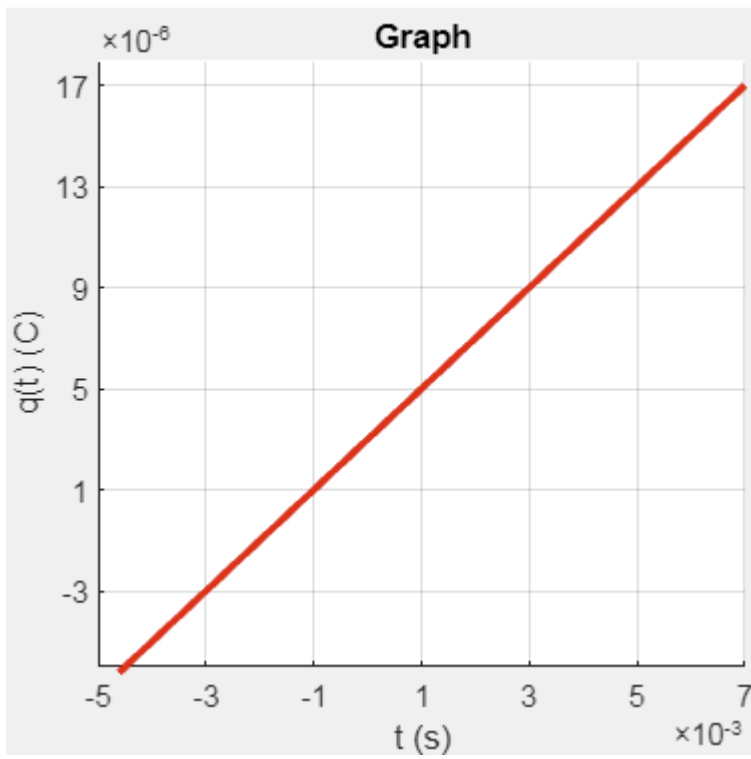
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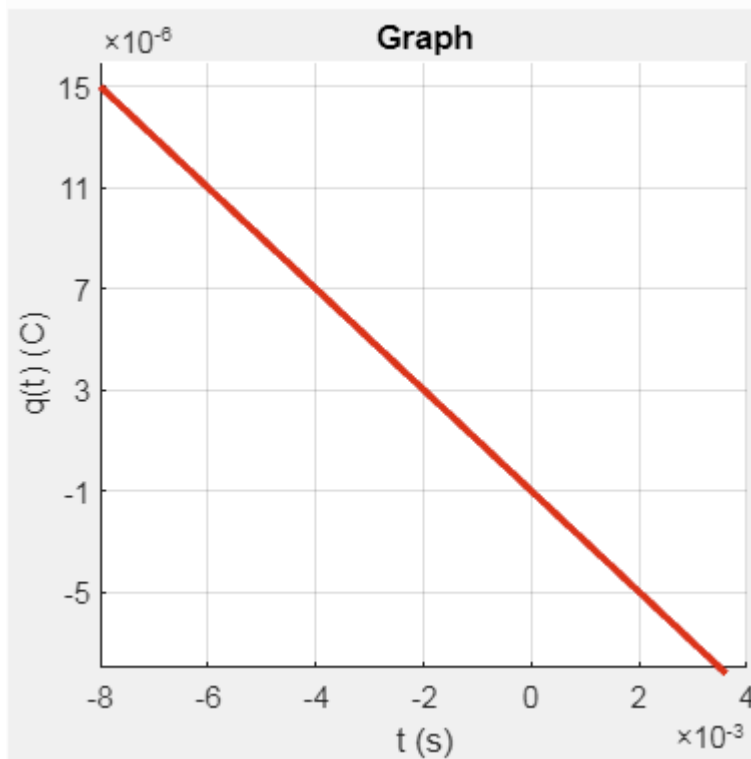
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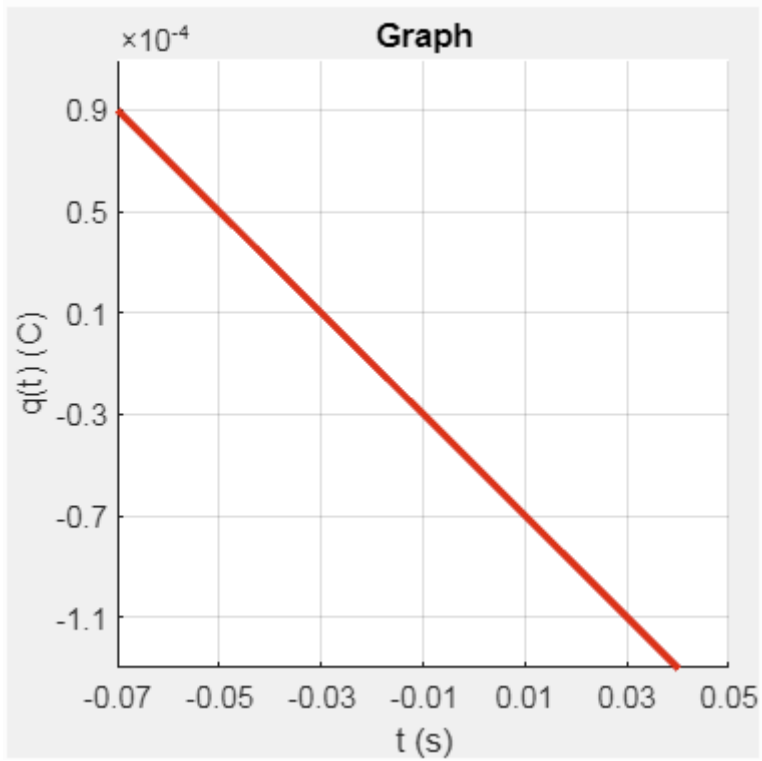
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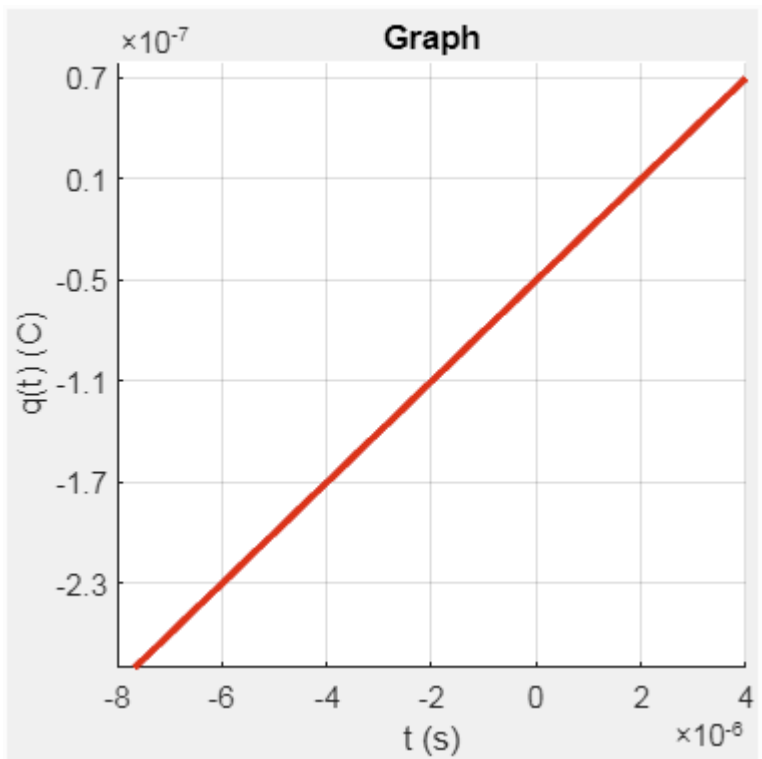
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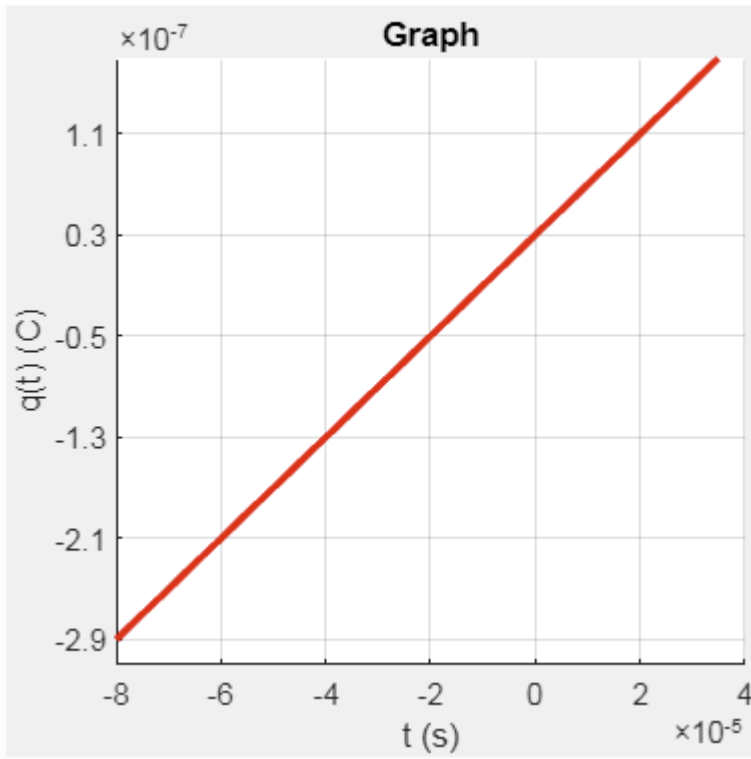
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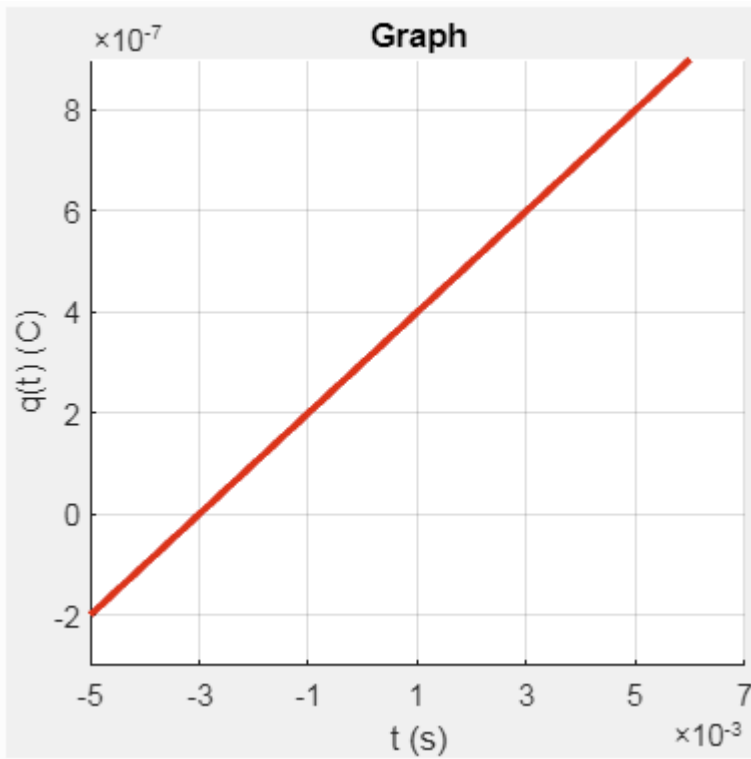
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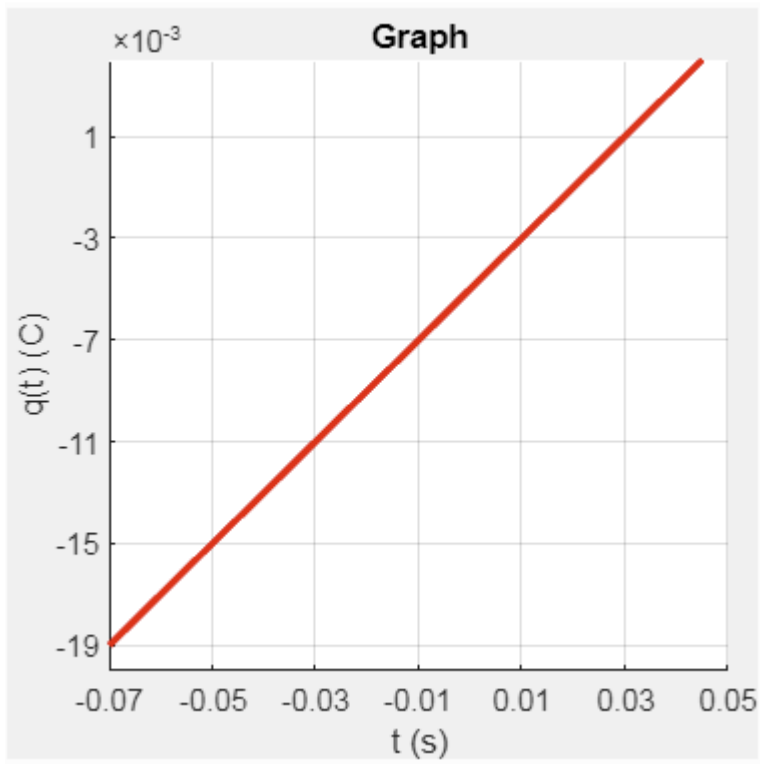
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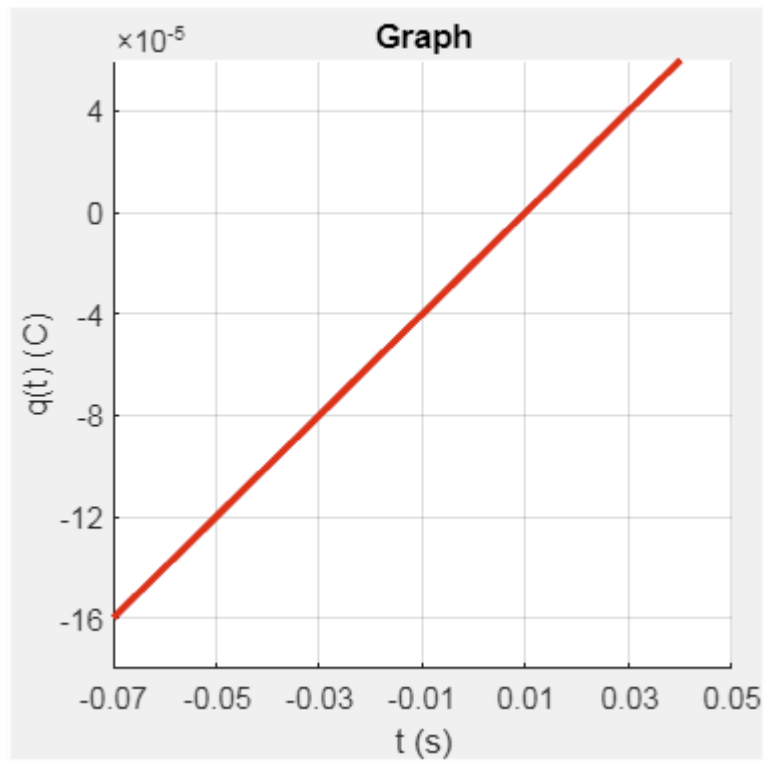
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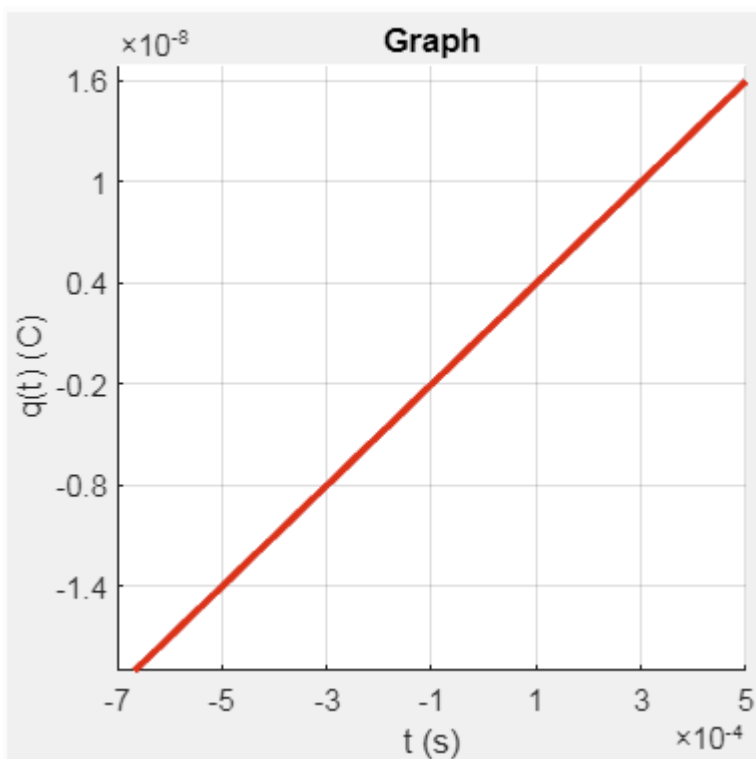
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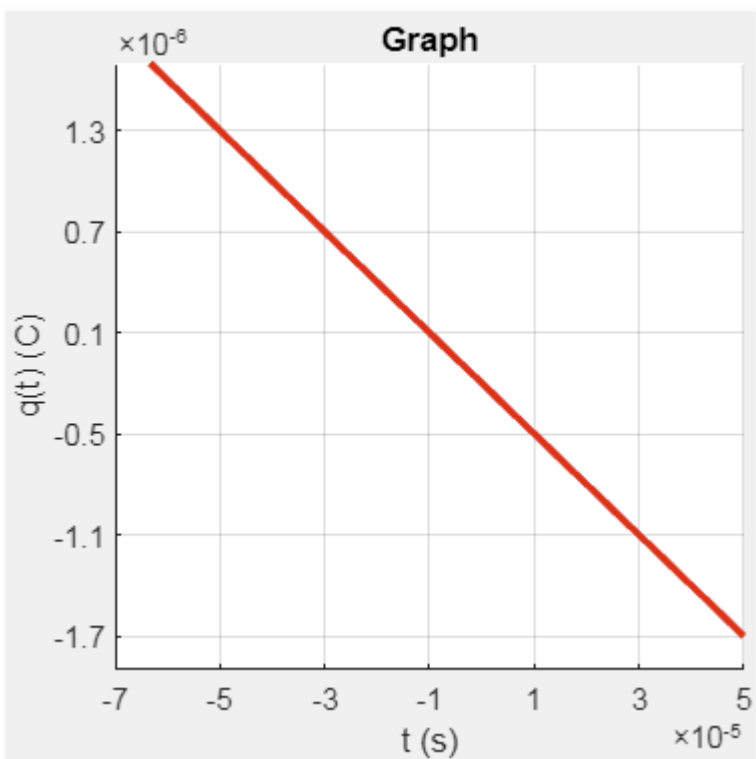
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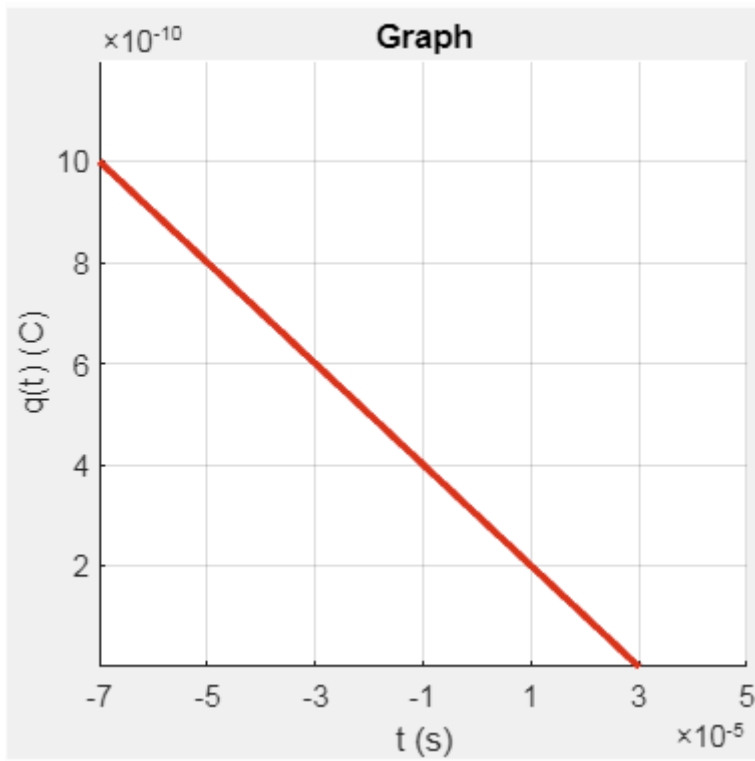
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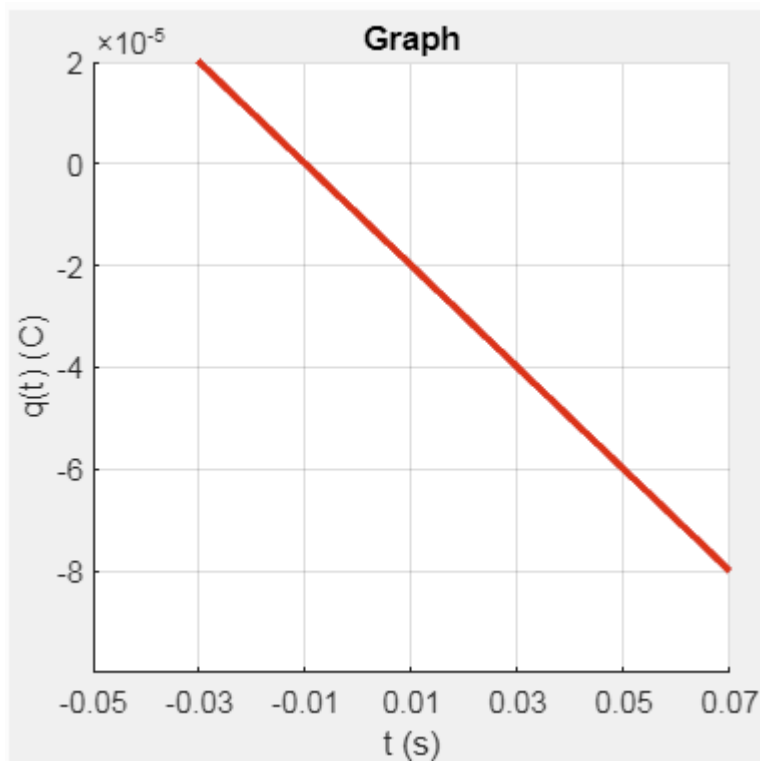
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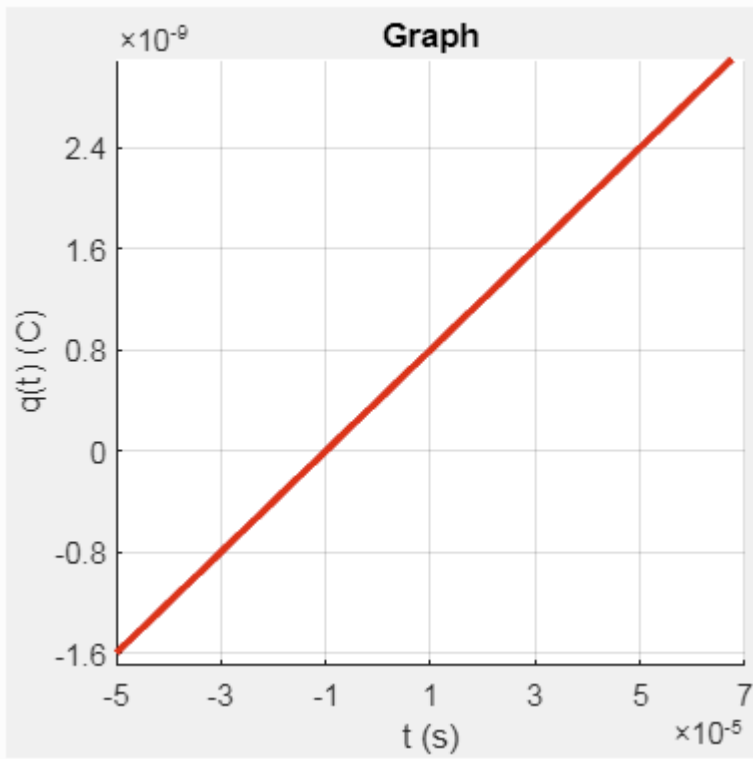
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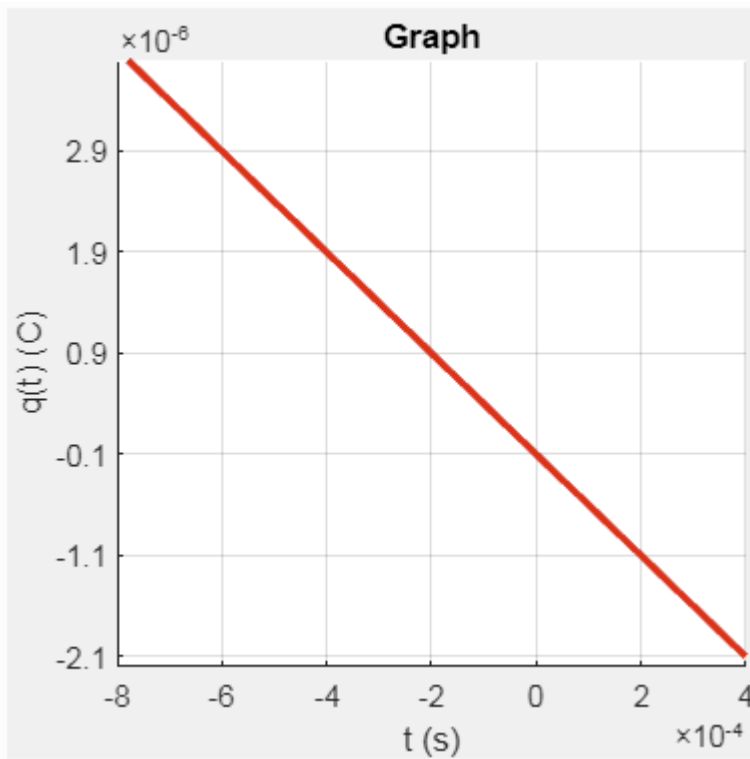
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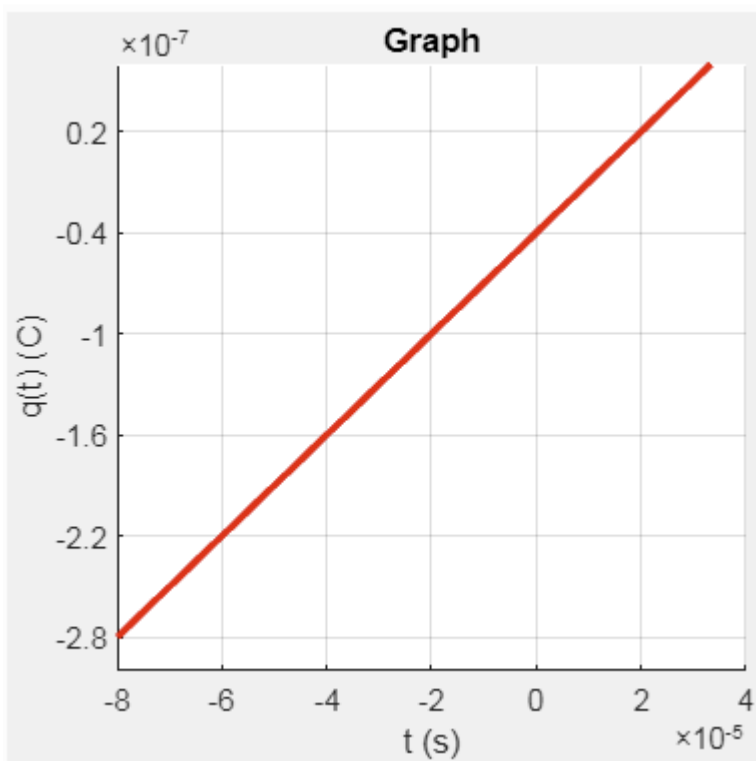
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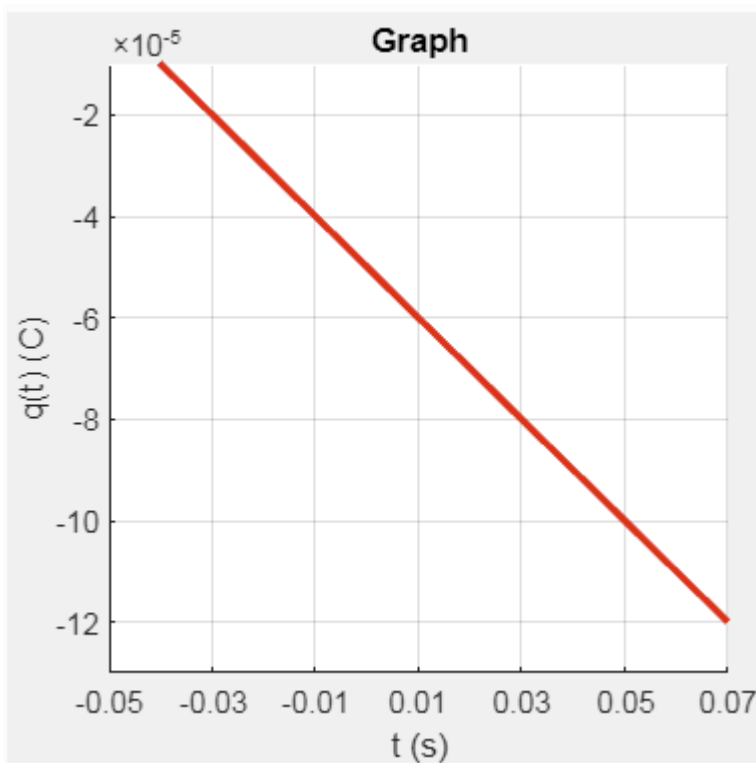
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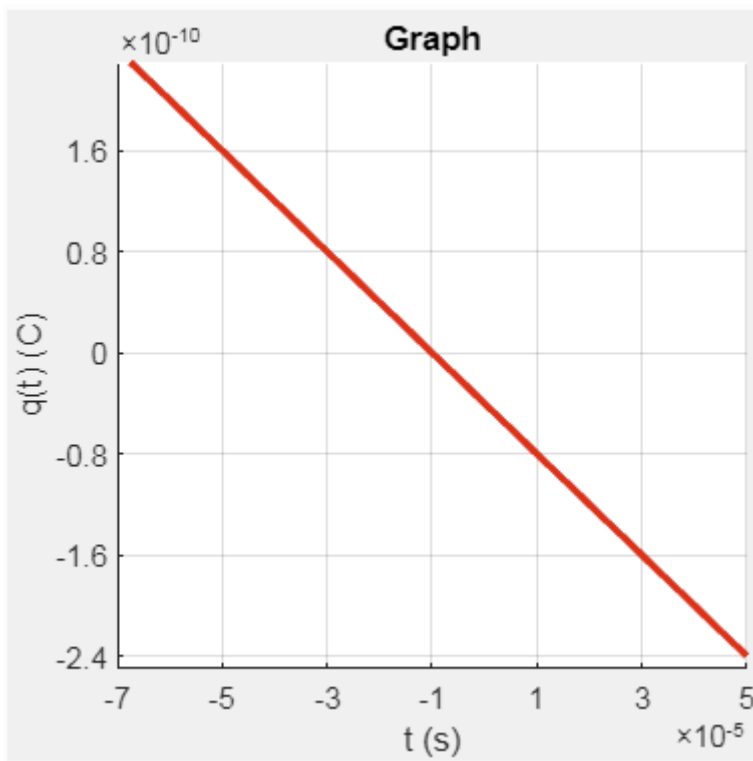
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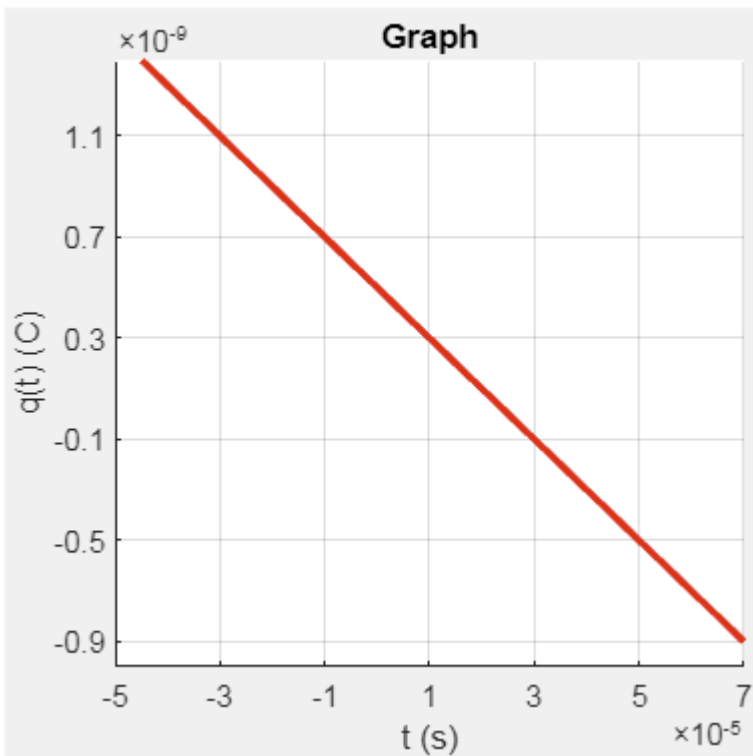
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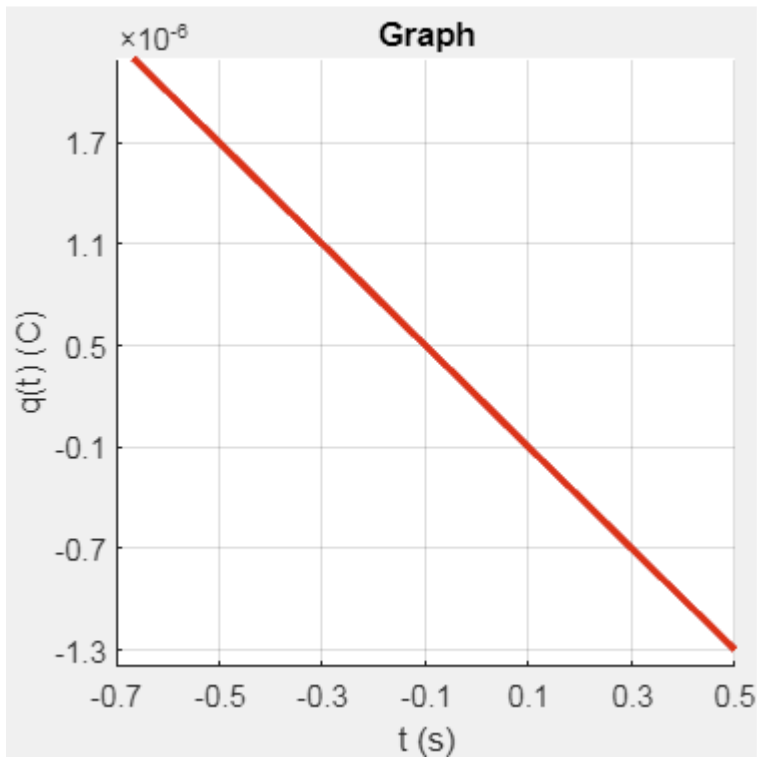
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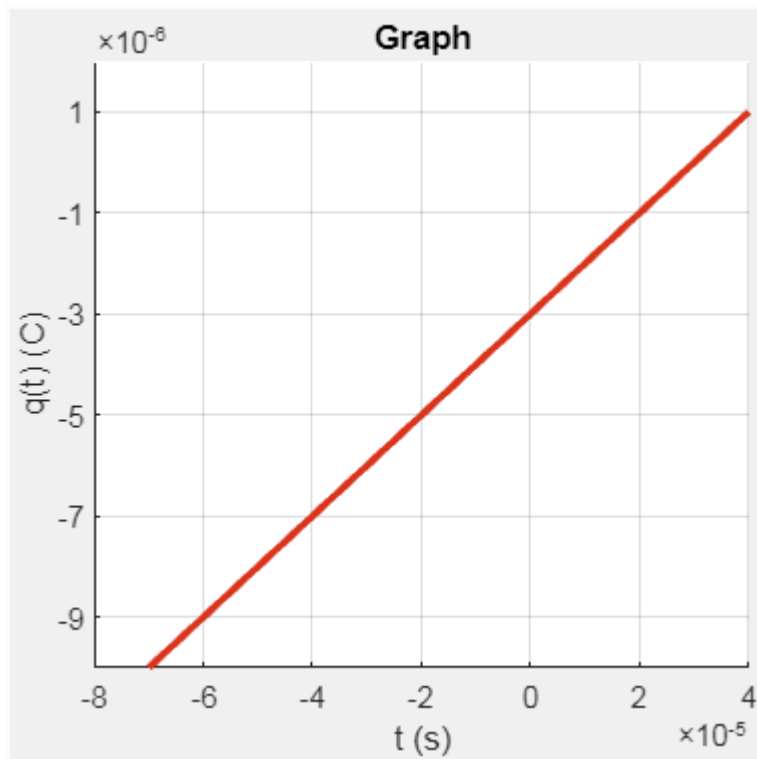
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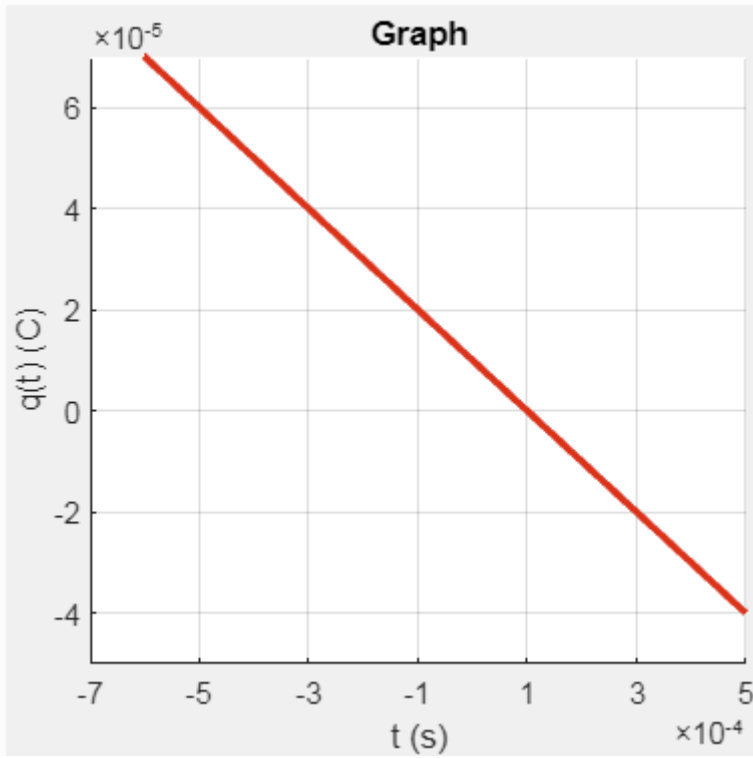
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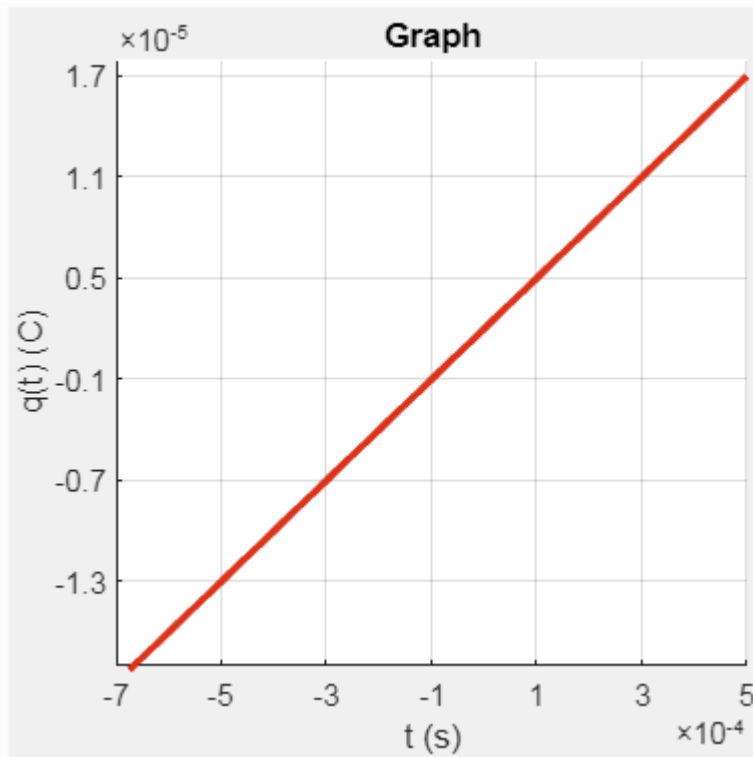
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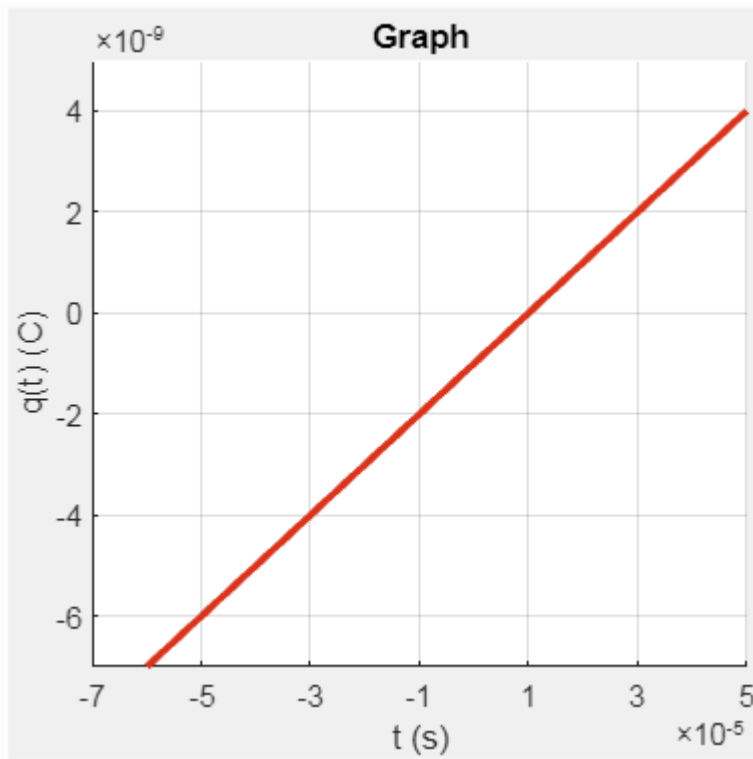
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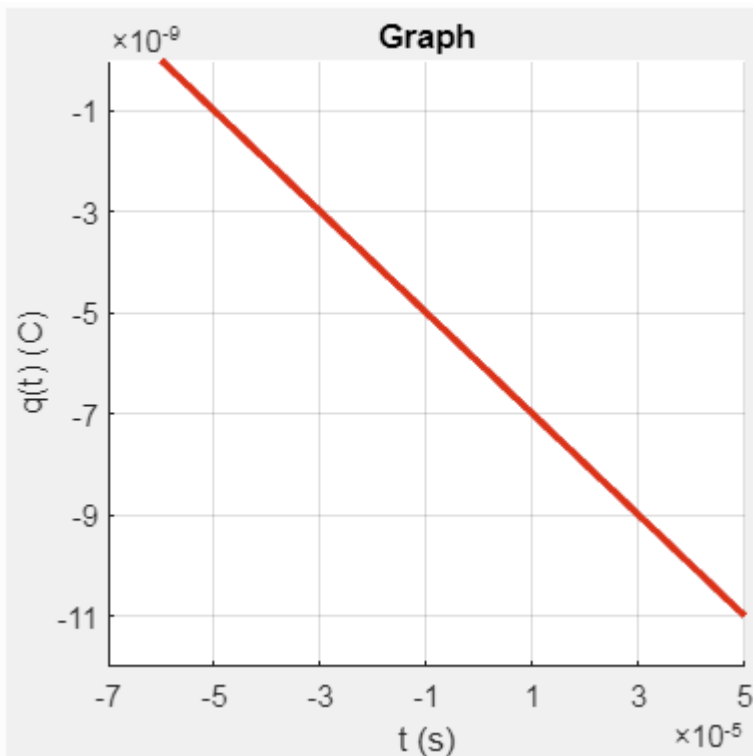
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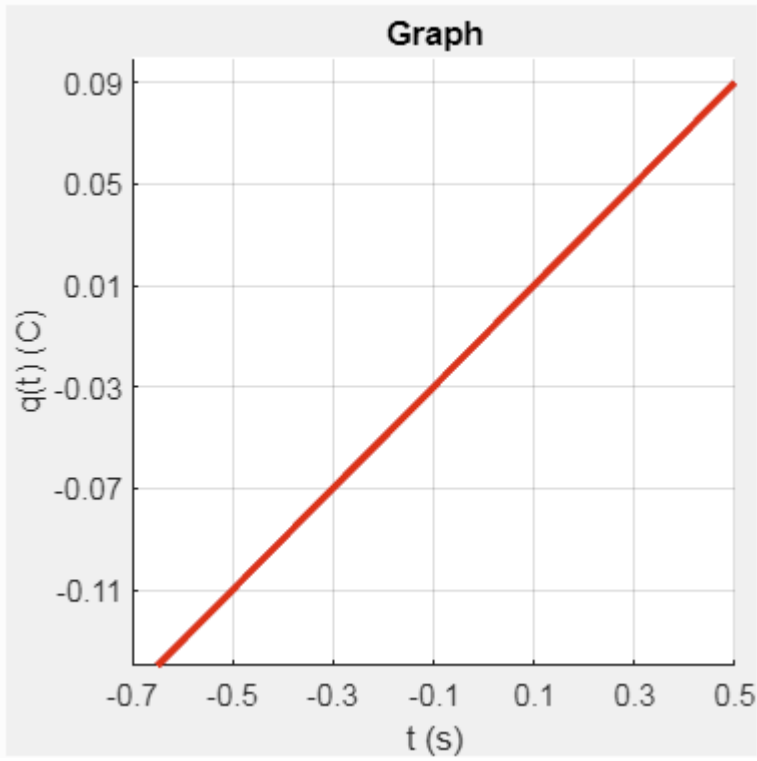
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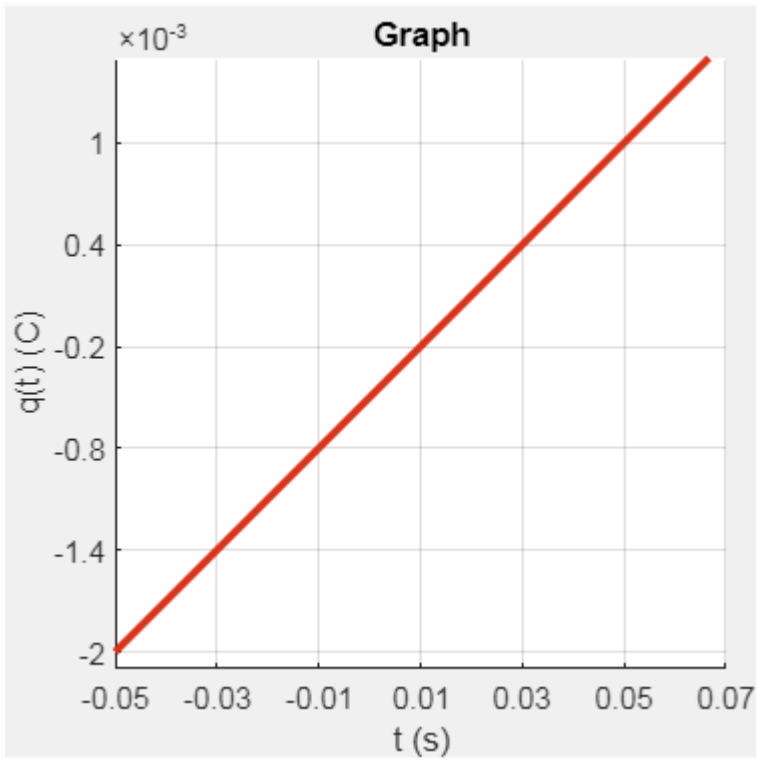
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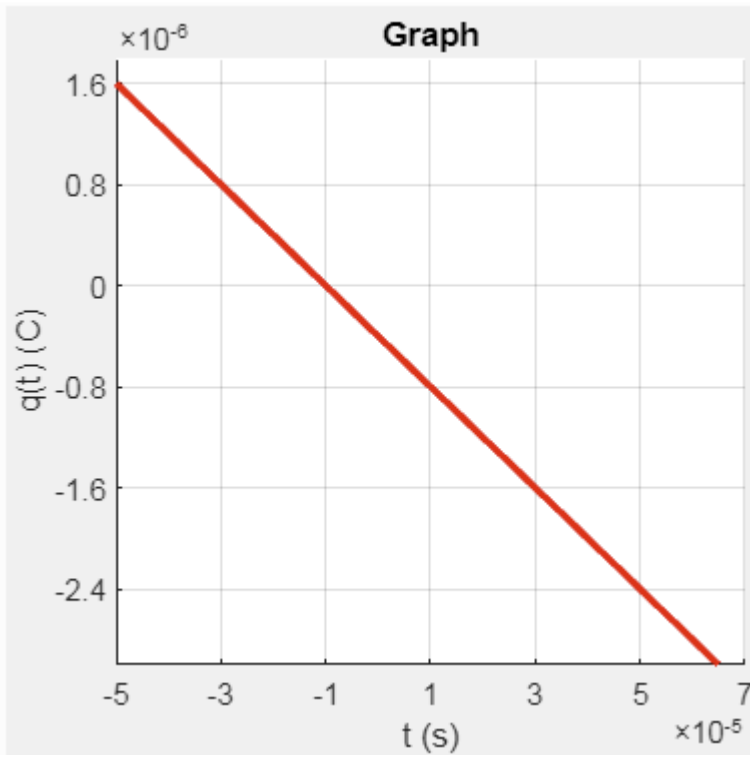
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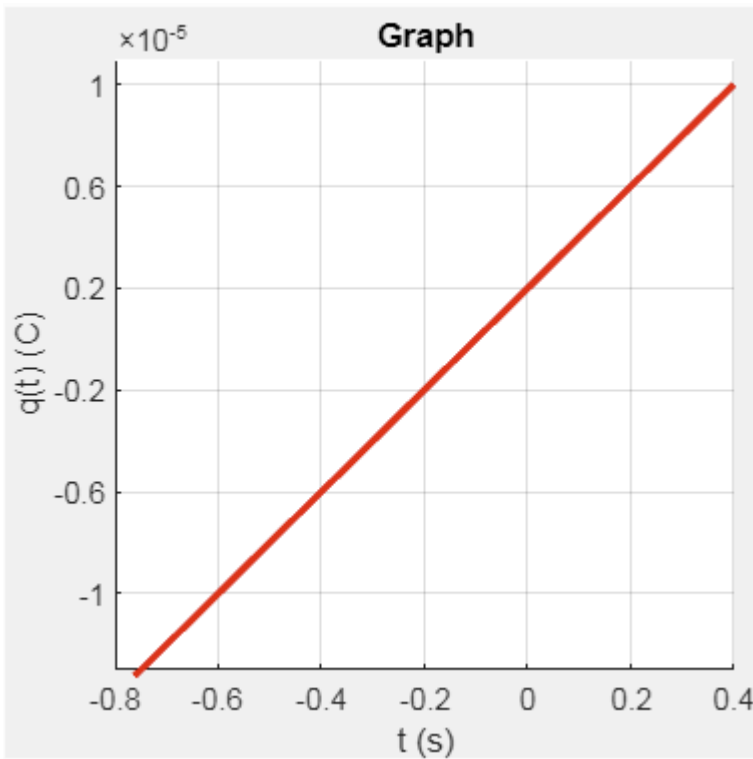
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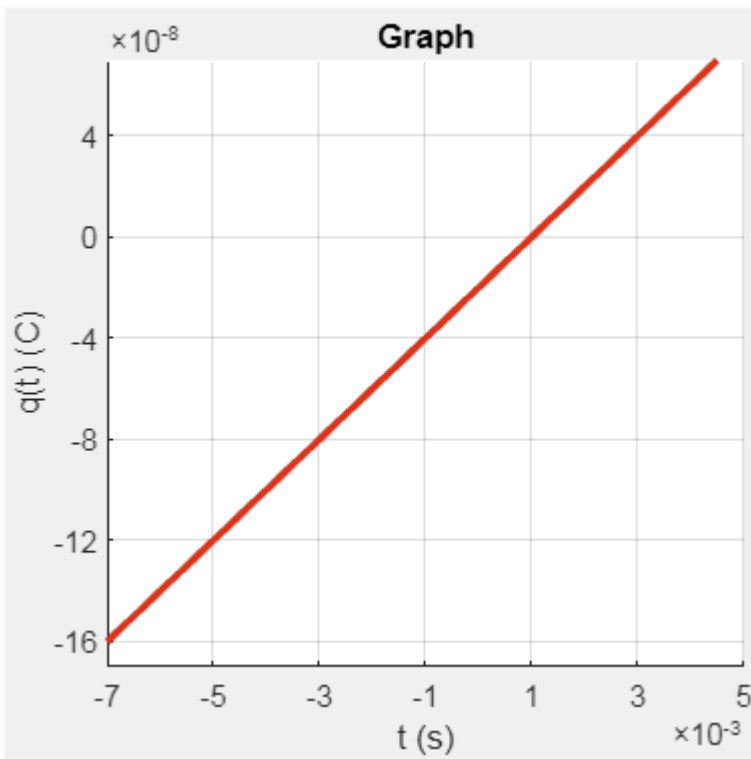
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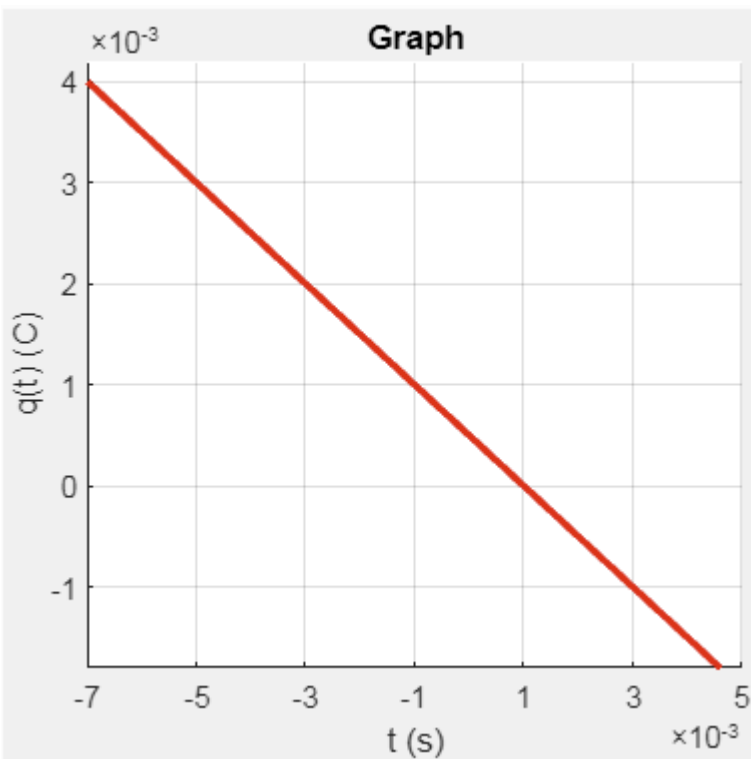
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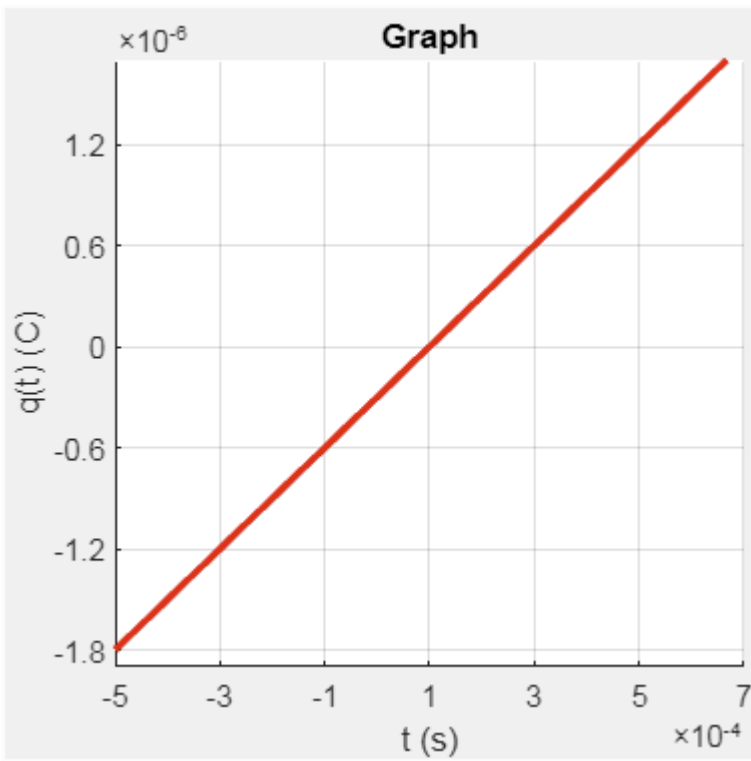
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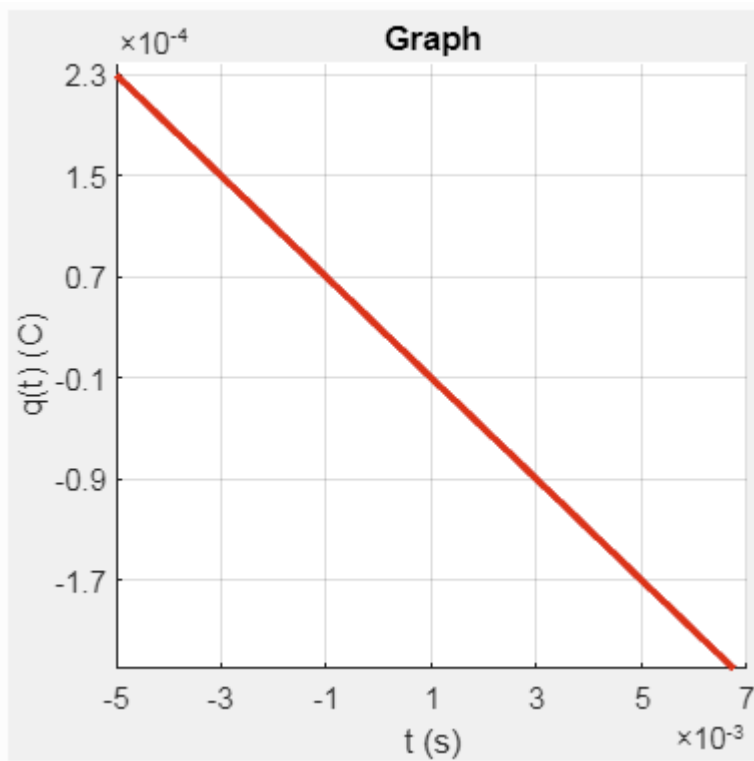
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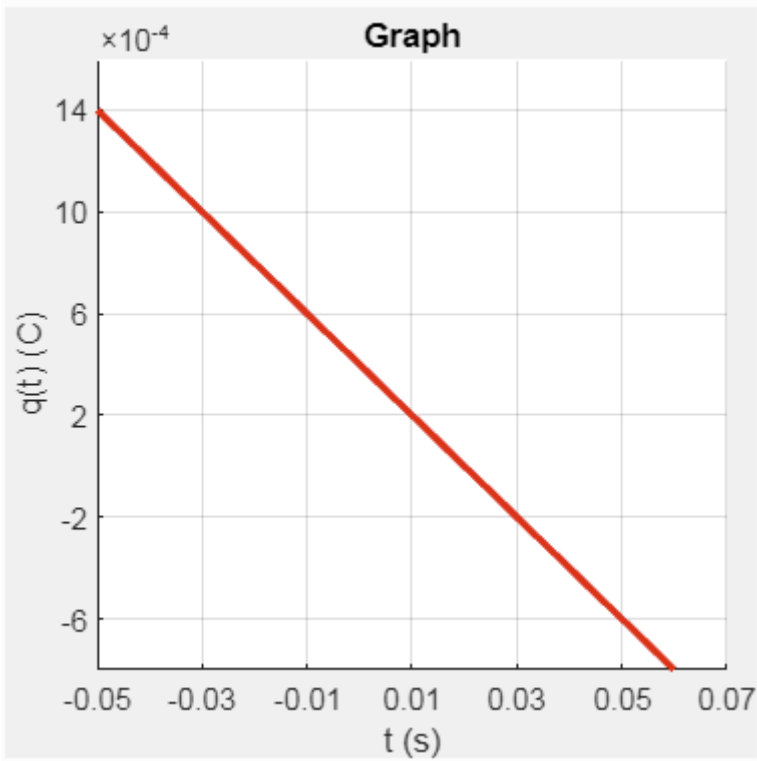
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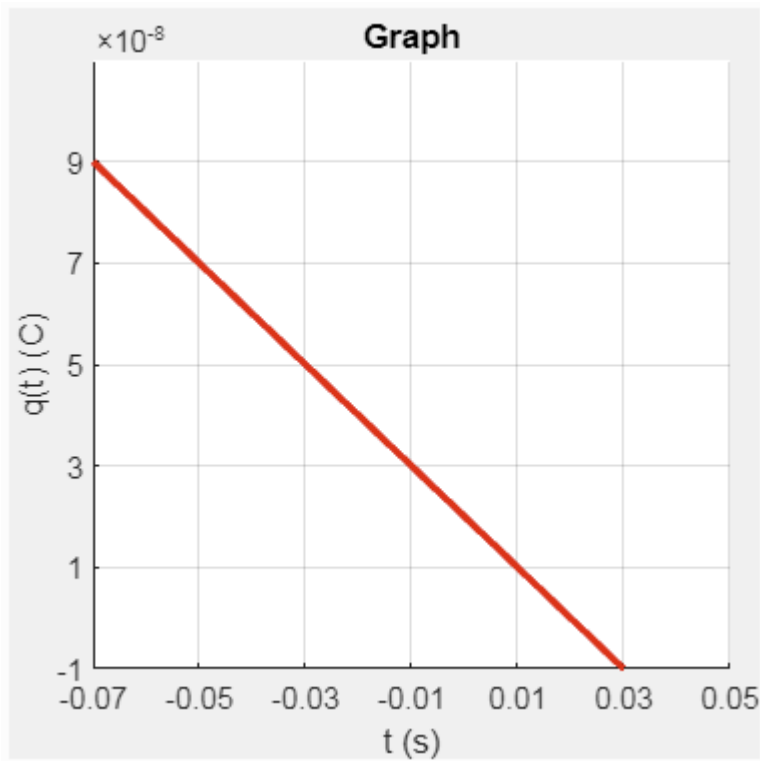
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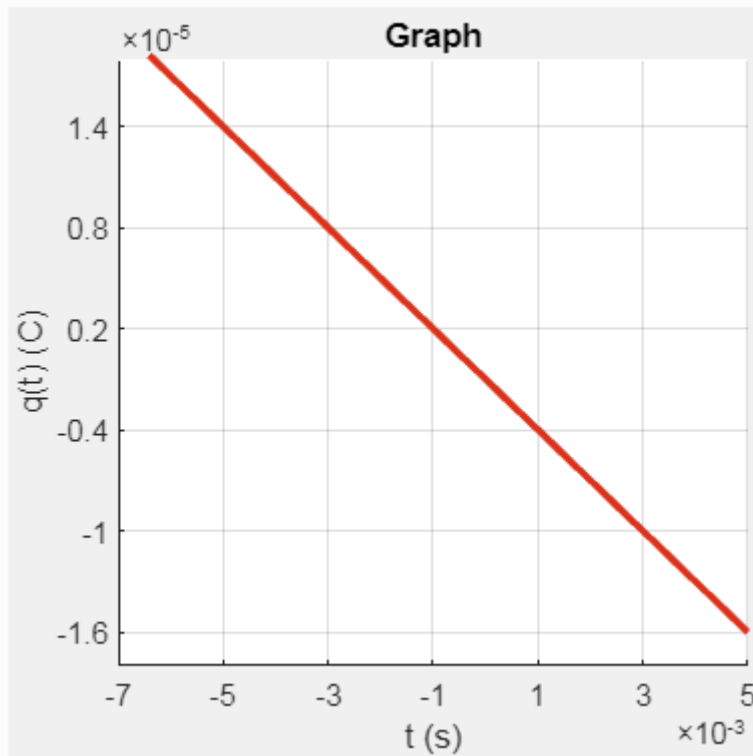
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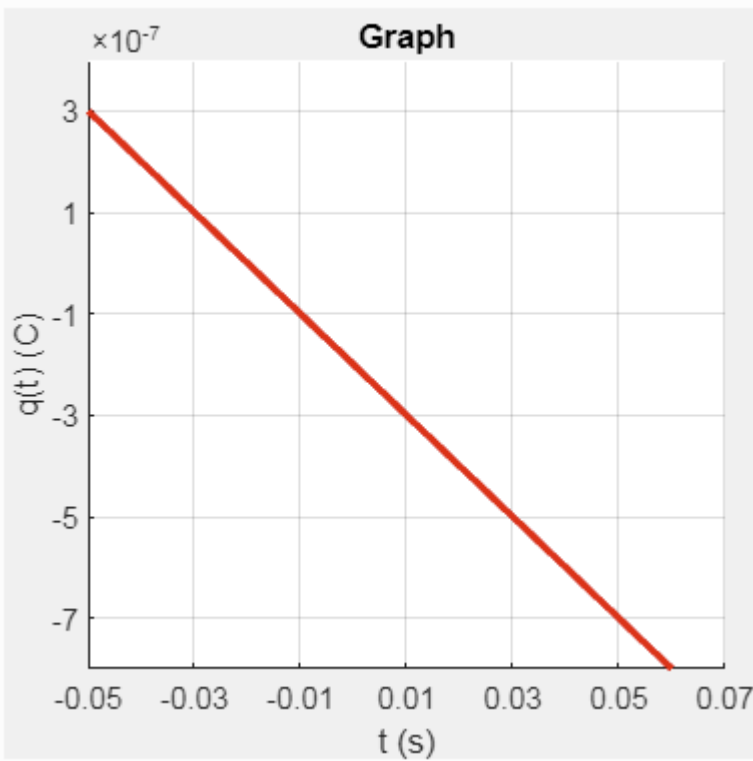
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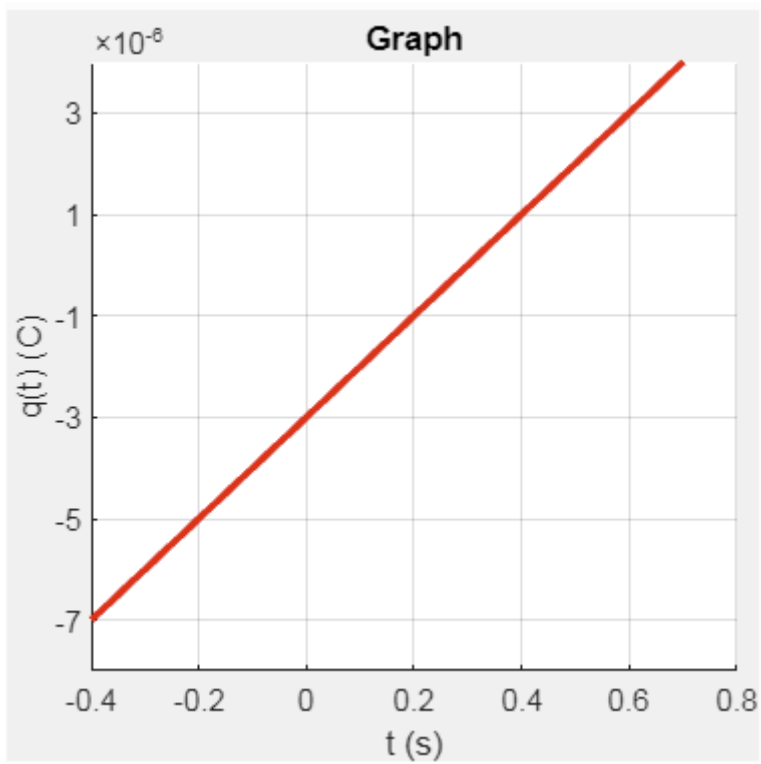
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98.



99.



100.

