

Predictions - 1

This set of exercises aims to increase your ability to predict based on an equation, by *evaluating* and *solving* it.

Example: Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-120	2399.9994
4300	q?
t?	-111600.0006
8070	-161400.0006

Solution:

The equation of a line given two points:

$$\frac{q(t)-q_1}{t-q_1} = \frac{q_2-q_1}{t_2-q_1} \quad \rightarrow \quad \frac{q(t)-2.399,9994}{t-120} = \frac{-161.400,0006-2.399,9994}{8.070-120} \quad \rightarrow$$

$$\frac{q(t) - 2.399,9994}{t - 120} = -20 \quad \rightarrow \quad q(t) = -20t - 600 \times 10^{-6} (C)$$

$$\text{Evaluating: } q(4.300) = -20t - 600 \times 10^{-6} \quad \rightarrow \quad q = -20 * 4.300 - 600 \times 10^{-6}$$

$$q = -8,6 \times 10^4 C$$

$$\text{Solving: } -20t - 600 \times 10^{-6} = -111.600,0006 \quad \rightarrow \quad t = \frac{-111.600,0006+600 \times 10^{-6}}{-20}$$

$$t = 5.580 s$$

Answer:

$$\text{Equation: } q(t) = -20t - 600 \times 10^{-6} (C), t = 5.580 s, q = -8,6 \times 10^4 C.$$

1. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-120	2399.9994
4300	q?
t?	-111600.0006
8070	-161400.0006

2. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	2.2
235	q?
719	7.19
809	8.09

3. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.664	q?
0.001	-0.04005
t?	-17.0001
0.957	-38.2801

4. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-70	-3500.1
t?	2224.9
63.5	q?
63.6	3179.9

5. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-833	-2.499
-734	q?
t?	-1.959
-218	-0.654

6. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-9.69e-05	q?
-6.66e-05	-1.334e-06
-1.37e-05	-1.863e-06
t?	-2.968e-06

7. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-4620	4620000.2
-1540	q?
t?	-959999.8
4760	-4759999.8

8. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-9.35	-374.0002
t?	-297.6002
-6.58	-263.2002
9.98	q?

9. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.000687	0.000697
t?	0.000257
0.00029	q?
0.000711	-0.000701

10. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	-24799.999
-469	-23449.999
-419	-20949.999
234	q?

11. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-4.79e-06	q?
t?	-4.189e-06
6.36e-06	-4.636e-06
7.59e-06	-4.759e-06

12. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.58	0.0029002
t?	-0.0098498
3.92	q?
4	-0.02

13. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-3.5e-05	q?
t?	-0.04937
4.37e-05	-0.04563
9.37e-05	-0.04063

14. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-4380	-175203
-1200	q?
t?	-34003
540	21597

15. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.000864	q?
-0.00049	-0.068
t?	0.0988
0.00039	0.108

16. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.998	0.978
-0.226	q?
t?	-0.224
0.832	-0.852

17. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.000928	0.01886
t?	0.01326
-5.3e-05	0.00136
0.000444	q?

18. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-6.23e-05	-0.010623
-4.62e-05	-0.010462
t?	-0.010425
5.31e-05	q?

19. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-7.61	-1521.98
t?	-1163.98
-5.28	-1055.98
4.19	q?

20. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.487	-0.19485
0.164	0.06555
0.227	q?
t?	0.26635

21. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	-0.382
0.089	q?
0.279	0.258
0.295	0.29

22. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-268	q?
-103	-412000.04
t?	1023999.96
527	2107999.96

23. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	-0.08
0.0051	0.082
0.0061	q?
0.0722	1.424

24. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.0911	-0.01922
-0.0514	q?
t?	-0.01052
0.051	0.0092

25. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.000961	-0.012883
-0.000459	q?
t?	-0.011014
-0.000151	-0.010453

26. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-568	-227.2001
-245	-98.0001
510	q?
t?	246.7999

27. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-6650	-66.5
290	q?
t?	72.4
9800	98

28. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-82	246
-77.7	233.1
-72.7	q?
t?	-20.4001

29. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
1660	8.3
3930	19.65
6310	q?
t?	42.95

30. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-5440	-543999
t?	-40999
-40	q?
6030	603001

31. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-8330	q?
2520	1260000.5
t?	1610000.5
4600	2300000.5

32. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.000758	q?
t?	-0.0003
0.00069	0.00691
0.000725	0.00726

33. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-7.54e-05	-2.7738e-06
-6.15e-05	q?
t?	-2.8233e-06
-2.1e-06	-2.9937e-06

34. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-7520	-3008
-1100	q?
t?	-76
720	288

35. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-8.36e-05	-0.047492
-7.89e-05	-0.047633
-5.88e-05	q?
t?	-0.052688

36. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.00938	6.2e-07
-0.00409	q?
-0.00397	6.03e-06
t?	1.878e-05

37. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.00892	0.0016432
-0.00646	q?
-0.00108	0.0019568
t?	0.0021304

38. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-1.71e-05	4.93e-06
t?	1.9e-06
5.28e-05	-1.604e-05
6.36e-05	q?

39. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-79.2	q?
t?	-12.6
35.1	70.2
82.4	164.8

40. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	-3.9914e-05
-5.75e-05	q?
-5.15e-05	-3.9948e-05
7.9e-05	-4.0079e-05

41. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.00797	q?
-0.00336	0.0013443
t?	0.0003523
0.00991	-0.0039637

42. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	-2.214e-05
6.8e-06	5.04e-06
5.54e-05	q?
8.1e-05	2.73e-05

43. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	-1040.01
207	-4140.01
415	q?
459	-9180.01

44. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	-5.0316
-3.25e-05	-5.013
2.16e-05	q?
4.83e-05	-4.9807

45. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-7.36e-05	0.004944
3.67e-05	q?
t?	0.00022
8.86e-05	-0.001544

46. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.0828	q?
t?	-0.44
0.0734	-0.704
0.0941	-0.911

47. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
t?	-0.000559
-0.000223	q?
0.000104	0.000134
0.000544	0.000574

48. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-8.17e-05	0.03368
-5.25e-05	q?
-1.89e-05	0.00856
t?	-0.00148

49. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-1.35e-05	-1.4e-07
t?	1.644e-06
3.9e-05	q?
5.16e-05	2.464e-06

50. Given the table, first compute the equation of the line, then solve and evaluate to predict indicated data.

t (s)	q (C)
-0.0926	q?
-0.0454	-4.51e-05
t?	-2.05e-05
0.0347	3.5e-05

51. Given the equation, compute $y?$ and $x?$

$$y = 2x + 2 \times 10^{-5}, \quad y? \text{ if } x = -81,5, \quad x? \text{ if } y = -196,8$$

52. Given the equation, compute $y?$ and $x?$

$$y = 40x - 0,04, \quad y? \text{ if } x = -0,00608, \quad x? \text{ if } y = -0,266$$

53. Given the equation, compute $y?$ and $x?$

$$y = 1.000x - 0,03, \quad y? \text{ if } x = -0,000373, \quad x? \text{ if } y = 0,086$$

54. Given the equation, compute $y?$ and $x?$

$$y = -0,3x + 3 \times 10^{-6}, \quad y? \text{ if } x = -1,95, \quad x? \text{ if } y = -2,898$$

55. Given the equation, compute $y?$ and $x?$

$$y = -0,2x - 1 \times 10^{-5}, \quad y? \text{ if } x = 3,71, \quad x? \text{ if } y = -0,12201$$

56. Given the equation, compute $y?$ and $x?$

$$y = -0,2x - 5 \times 10^{-4}, \quad y? \text{ if } x = -1,51 \times 10^{-6}, \quad x? \text{ if } y = 0,00049903$$

57. Given the equation, compute $y?$ and $x?$

$$y = -40x - 3 \times 10^{-3}, \quad y? \text{ if } x = 51,9, \quad x? \text{ if } y = 2.075,997$$

58. Given the equation, compute $y?$ and $x?$

$$y = 0,02x + 2 \times 10^{-3}, \quad y? \text{ if } x = 0,332, \quad x? \text{ if } y = -0,01146$$

59. Given the equation, compute $y?$ and $x?$

$$y = -0,1x + 3 \times 10^{-6}, \quad y? \text{ if } x = 0,497, \quad x? \text{ if } y = 0,075997$$

60. Given the equation, compute $y?$ and $x?$

$$y = x + 3 \times 10^{-5}, \quad y? \text{ if } x = -673, \quad x? \text{ if } y = 307$$

61. Given the equation, compute $y?$ and $x?$

$$y = -100x + 0,04, \quad y? \text{ if } x = 0,0535, \quad x? \text{ if } y = -4,26$$

62. Given the equation, compute $y?$ and $x?$

$$y = -20x - 0,04, \quad y? \text{ if } x = -20, \quad x? \text{ if } y = 2.179,96$$

63. Given the equation, compute $y?$ and $x?$

$$y = -2x + 0,005, \quad y? \text{ if } x = 171, \quad x? \text{ if } y = -1.837,995$$

64. Given the equation, compute $y?$ and $x?$

$$y = 0,03x - 0,002, \quad y? \text{ if } x = -0,00485, \quad x? \text{ if } y = -0,0022103$$

65. Given the equation, compute $y?$ and $x?$

$$y = 0,4x + 0,003, \quad y? \text{ if } x = 0,171, \quad x? \text{ if } y = -0,0182$$

66. Given the equation, compute $y?$ and $x?$

$$y = 20x + 0,03, \quad y? \text{ if } x = -6,69, \quad x? \text{ if } y = 75,63$$

67. Given the equation, compute $y?$ and $x?$

$$y = 0,005x - 5 \times 10^{-7}, \quad y? \text{ if } x = -0,695, \quad x? \text{ if } y = 0,0041345$$

68. Given the equation, compute $y?$ and $x?$

$$y = -200x + 0,05, \quad y? \text{ if } x = -0,0831, \quad x? \text{ if } y = -10,95$$

69. Given the equation, compute $y?$ and $x?$

$$y = 40x - 0,001, \quad y? \text{ if } x = 1 \times 10^{-7}, \quad x? \text{ if } y = -0,003912$$

70. Given the equation, compute $y?$ and $x?$

$$y = 4.000x - 0,2, \quad y? \text{ if } x = -6,32 \times 10^{-6}, \quad x? \text{ if } y = -0,2066$$

71. Given the equation, compute $y?$ and $x?$

$$y = -0,04x + 0,005, \quad y? \text{ if } x = -0,0778, \quad x? \text{ if } y = 0,005884$$

72. Given the equation, compute $y?$ and $x?$

$$y = -30x + 0,2, \quad y? \text{ if } x = -2,94 \times 10^{-6}, \quad x? \text{ if } y = 0,20016$$

73. Given the equation, compute $y?$ and $x?$

$$y = -10x + 0,5, \quad y? \text{ if } x = -0,000374, \quad x? \text{ if } y = -0,50489$$

74. Given the equation, compute $y?$ and $x?$

$$y = 300x - 0,1, \quad y? \text{ if } x = -0,128, \quad x? \text{ if } y = -31,9$$

75. Given the equation, compute $y?$ and $x?$

$$y = -0,3x - 3 \times 10^{-5}, \quad y? \text{ if } x = 2,45, \quad x? \text{ if } y = -2,634$$

76. Given the equation, compute $q?$ and $t?$

$$q(t) = 10t - 5 \times 10^{-4} (C), \quad q? \text{ if } t = -0,00183 \text{ s}, \quad t? \text{ if } q = -0,0489 C$$

77. Given the equation, compute $q?$ and $t?$

$$q(t) = 2t - 3 \times 10^{-3} (C), \quad q? \text{ if } t = 6.020 \text{ s}, \quad t? \text{ if } q = -16.580,003 C$$

78. Given the equation, compute $q?$ and $t?$

$$q(t) = 0,2t + 6 \times 10^{-5} (C), \quad q? \text{ if } t = 0,94 \text{ s}, \quad t? \text{ if } q = -1,0739 C$$

79. Given the equation, compute $q?$ and $t?$

$$q(t) = 0,02t - 5 \times 10^{-4} (C), \quad q? \text{ if } t = -0,00476 \text{ s}, \quad t? \text{ if } q = -0,0003816 C$$

80. Given the equation, compute $q?$ and $t?$

$$q(t) = 0,02t + 3 \times 10^{-8} (C), \quad q? \text{ if } t = 0,00558 \text{ s}, \quad t? \text{ if } q = 0,00015643 C$$

81. Given the equation, compute $q?$ and $t?$

$$q(t) = 0,01t + 5 \times 10^{-7} (C), \quad q? \text{ if } t = 235 \text{ s}, \quad t? \text{ if } q = 2,2 C$$

82. Given the equation, compute $q?$ and $t?$

$$q(t) = -40t - 5 \times 10^{-5} (C), \quad q? \text{ if } t = -0,664 \text{ s}, \quad t? \text{ if } q = -17,0001 C$$

83. Given the equation, compute $q?$ and $t?$

$$q(t) = 50t - 0,1 (C), \quad q? \text{ if } t = 63,5 \text{ s}, \quad t? \text{ if } q = 2.224,9 C$$

84. Given the equation, compute $q?$ and $t?$

$$q(t) = 3 \times 10^{-3}t - 1 \times 10^{-7} (C), \quad q? \text{ if } t = -734 \text{ s}, \quad t? \text{ if } q = -1,959 C$$

85. Given the equation, compute $q?$ and $t?$

$$q(t) = -10 \times 10^{-3}t - 2 \times 10^{-6} (C), \quad q? \text{ if } t = -9,69 \times 10^{-5} \text{ s}, \\ t? \text{ if } q = -2,968 \times 10^{-6} C$$

86. Given the equation, compute $q?$ and $t?$

$$q(t) = -1.000t + 0,2 (C), \quad q? \text{ if } t = -1.540 \text{ s}, \quad t? \text{ if } q = -959.999,8 C$$

87. Given the equation, compute $q?$ and $t?$

$$q(t) = 40t - 2 \times 10^{-4} (C), \quad q? \text{ if } t = 9,98 \text{ s}, \quad t? \text{ if } q = -297,6002 C$$

88. Given the equation, compute $q?$ and $t?$

$$q(t) = -0,4t + 5 \times 10^{-4} (C), \quad q? \text{ if } t = -7,46 \text{ s}, \quad t? \text{ if } q = -3,3075 C$$

89. Given the equation, compute $q?$ and $t?$

$$q(t) = -100t + 6 (C), \quad q? \text{ if } t = -2,9 \times 10^{-6} \text{ s}, \quad t? \text{ if } q = 5,9909 C$$

90. Given the equation, compute $q?$ and $t?$

$$q(t) = -10t + 2 \times 10^{-4} (C), \quad q? \text{ if } t = 51,5 \text{ s}, \quad t? \text{ if } q = -356,9998 C$$

91. Given the equation, compute $q?$ and $t?$

$$q(t) = 5 \times 10^{-3}t - 1 \times 10^{-7} (C), \quad q? \text{ if } t = -0,00806 \text{ s}, \\ t? \text{ if } q = 1,94 \times 10^{-5} C$$

92. Given the equation, compute $q?$ and $t?$

$$q(t) = -20t - 0,04 (C), \quad q? \text{ if } t = -20 \text{ s}, \quad t? \text{ if } q = 2.179,96 C$$

93. Given the equation, compute $q?$ and $t?$

$$q(t) = -2t - 0,005 (C), \quad q? \text{ if } t = 171 \text{ s}, \quad t? \text{ if } q = -1.837,995 C$$

94. Given the equation, compute $q?$ and $t?$

$$q(t) = 0,03t - 0,002 (C), \quad q? \text{ if } t = -0,00485 \text{ s}, \quad t? \text{ if } q = -0,0022103 C$$

95. Given the equation, compute $q?$ and $t?$

$$q(t) = 0,4t + 0,003 (C), \quad q? \text{ if } t = 0,171 \text{ s}, \quad t? \text{ if } q = -0,0182 C$$

96. Given the equation, compute $q?$ and $t?$

$$q(t) = -4t - 6 \times 10^{-4} (C), \quad q? \text{ if } t = 8.920 \text{ s}, \quad t? \text{ if } q = 33.919,9994 C$$

97. Given the equation, compute $q?$ and $t?$

$$q(t) = -20t + 0,03 (C), \quad q? \text{ if } t = -6,69 \text{ s}, \quad t? \text{ if } q = 75,63 C$$

98. Given the equation, compute $q?$ and $t?$

$$q(t) = 5 \times 10^{-3}t - 5 \times 10^{-7} (C), \quad q? \text{ if } t = -0,695 \text{ s}, \quad t? \text{ if } q = 0,0041345 C$$

99. Given the equation, compute $q?$ and $t?$

$$q(t) = -200t + 0,05 (C), \quad q? \text{ if } t = -0,0831 \text{ s}, \quad t? \text{ if } q = -10,95 C$$

100. Given the equation, compute $q?$ and $t?$

$$q(t) = 40t - 1 \times 10^{-3} (C), \quad q? \text{ if } t = 1 \times 10^{-5} \text{ s}, \quad t? \text{ if } q = -0,003912 C$$

Answer:

1. $m = -20 \frac{C}{s}$, $b = -600 \times 10^{-6} C$, $t? = 5,58 \times 10^3 s$, $q? = -8,60 \times 10^4 C$

2. $m = 0,01 C/s$, $b = -5 \times 10^{-7} C$, $t? = 2,20 \times 10^2 s$, $q? = 2,35 C$

3. $m = -40 C/s$, $b = -5 \times 10^{-5} C$, $t? = 4,25 \times 10^{-1} s$, $q? = 2,66 \times 10^1 C$

4. $m = 50 C/s$, $b = -0,1 C$, $t? = 4,45 \times 10^1 s$, $q? = 3,17 \times 10^3 C$

5. $m = 0,003 C/s$, $b = -1 \times 10^{-7} C$, $t? = -6,53 \times 10^2 s$, $q? = -2,20 C$

6. $m = -0,01 C/s$, $b = -2 \times 10^{-6} C$, $t? = 9,68 \times 10^{-5} s$, $q? = -1,03 \times 10^{-6} C$

7. $m = 1.000 C/s$, $b = 0,2 C$, $t? = 9,60 \times 10^2 s$, $q? = 1,54 \times 10^6 C$

8. $m = 40 C/s$, $b = -2 \times 10^{-4} C$, $t? = -7,44 s$, $q? = 3,99 \times 10^2 C$

9. $m = -1 C/s$, $b = 1 \times 10^{-5} C$, $t? = -2,47 \times 10^{-4} s$, $q? = -2,80 \times 10^{-4} C$

10. $m = 50 C/s$, $b = 1 \times 10^{-3} C$, $t? = -4,96 \times 10^2 s$, $q? = 1,17 \times 10^4 C$

11. $m = -0,1 C/s$, $b = -4 \times 10^{-6} C$, $t? = 1,89 \times 10^{-6} s$, $q? = -3,52 \times 10^{-6} C$

12. $m = -5 \times 10^{-3} C/s$, $b = 2 \times 10^{-7} C$, $t? = 1,97 s$, $q? = -1,96 \times 10^{-2} C$

13. $m = 100 C/s$, $b = -0,05 C$, $t? = 6,30 \times 10^{-6} s$, $q? = -5,35 \times 10^{-2} C$

14. $m = 40 C/s$, $b = -3 C$, $t? = -8,50 \times 10^2 s$, $q? = -4,80 \times 10^4 C$

15. $m = 200 C/s$, $b = 0,03 C$, $t? = 3,44 \times 10^{-4} s$, $q? = -1,43 \times 10^{-1} C$

16. $m = -1 C/s$, $b = -0,02 C$, $t? = 2,04 \times 10^{-1} s$, $q? = 2,06 \times 10^{-1} C$

17. $m = -20 C/s$, $b = 3 \times 10^{-4} C$, $t? = -6,48 \times 10^{-4} s$, $q? = -8,58 \times 10^{-3} C$

18. $m = 10 C/s$, $b = -0,01 C$, $t? = -4,25 \times 10^{-5} s$, $q? = -9,47 \times 10^{-3} C$

19. $m = 200 C/s$, $b = 0,02 C$, $t? = -5,82 s$, $q? = 8,38 \times 10^2 C$

20. $m = 0,4 C/s$, $b = -5 \times 10^{-5} C$, $t? = 6,66 \times 10^{-1} s$, $q? = 9,07 \times 10^{-2} C$

21. $m = 2 C/s$, $b = -0,3 C$, $t? = -4,10 \times 10^{-2} s$, $q? = -1,22 \times 10^{-1} C$

22. $m = 4.000 C/s$, $b = -0,04 C$, $t? = 2,56 \times 10^2 s$, $q? = -1,07 \times 10^6 C$

23. $m = 20 C/s$, $b = -0,02 C$, $t? = -3 \times 10^{-3} s$, $q? = 1,02 \times 10^{-1} C$

24. $m = 0,2 C/s$, $b = -0,001 C$, $t? = -4,76 \times 10^{-2} s$, $q? = -1,13 \times 10^{-2} C$

25. $m = 3 \text{ C/s}$, $b = -0,01 \text{ C}$, $t? = -3,38 \times 10^{-4} \text{ s}$, $q? = -1,14 \times 10^{-2} \text{ C}$
26. $m = 0,4 \text{ C/s}$, $b = -1 \times 10^{-4} \text{ C}$, $t? = 6,17 \times 10^2 \text{ s}$, $q? = 2,04 \times 10^2 \text{ C}$
27. $m = 0,01 \text{ C/s}$, $b = -1 \times 10^{-7} \text{ C}$, $t? = 7,24 \times 10^3 \text{ s}$, $q? = 2,9 \text{ C}$
28. $m = -3 \text{ C/s}$, $b = -5 \times 10^{-5} \text{ C}$, $t? = 6,8 \text{ s}$, $q? = 2,18 \times 10^2 \text{ C}$
29. $m = 0,005 \text{ C/s}$, $b = 1 \times 10^{-5} \text{ C}$, $t? = 8,59 \times 10^3 \text{ s}$, $q? = 3,16 \times 10^1 \text{ C}$
30. $m = 100 \text{ C/s}$, $b = 1 \text{ C}$, $t? = -4,1 \times 10^2 \text{ s}$, $q? = -4 \times 10^3 \text{ C}$
31. $m = 500 \text{ C/s}$, $b = 0,5 \text{ C}$, $t? = 3,22 \times 10^3 \text{ s}$, $q? = -4,16 \times 10^6 \text{ C}$
32. $m = 10 \text{ C/s}$, $b = 1 \times 10^{-5} \text{ C}$, $t? = -3,1 \times 10^{-5} \text{ s}$, $q? = -7,57 \times 10^{-3} \text{ C}$
33. $m = -0,003 \text{ C/s}$, $b = -3 \times 10^{-6} \text{ C}$, $t? = -5,89 \times 10^{-5} \text{ s}$, $q? = -2,82 \times 10^{-6} \text{ C}$
34. $m = 0,4 \text{ C/s}$, $b = 1 \times 10^{-6} \text{ C}$, $t? = -1,9 \times 10^2 \text{ s}$, $q? = -4,4 \times 10^4 \text{ C}$
35. $m = -30 \text{ C/s}$, $b = -0,05 \text{ C}$, $t? = 8,96 \times 10^{-5} \text{ s}$, $q? = -4,82 \times 10^{-2} \text{ C}$
36. $m = 1 \times 10^{-3} \text{ C/s}$, $b = 1 \times 10^{-5} \text{ C}$, $t? = 8,78 \times 10^{-3} \text{ s}$, $q? = 5,91 \times 10^{-6} \text{ C}$
37. $m = 40 \times 10^{-3} \text{ C/s}$, $b = 2 \times 10^{-3} \text{ C}$, $t? = 3,26 \times 10^{-3} \text{ s}$, $q? = 1,74 \times 10^{-3} \text{ C}$
38. $m = -0,3 \text{ C/s}$, $b = -2 \times 10^{-7} \text{ C}$, $t? = -7 \times 10^{-6} \text{ s}$, $q? = -1,93 \times 10^{-5} \text{ C}$
39. $m = 2 \text{ C/s}$, $b = -1 \times 10^{-5} \text{ C}$, $t? = -6,3 \text{ s}$, $q? = -1,58 \times 10^2 \text{ C}$
40. $m = -1 \times 10^{-3} \text{ C/s}$, $b = -4 \times 10^{-5} \text{ C}$, $t? = -8,57 \times 10^{-5} \text{ s}$, $q? = -3,99 \times 10^{-5} \text{ C}$
41. $m = -0,4 \text{ C/s}$, $b = 3 \times 10^{-7} \text{ C}$, $t? = -8,8 \times 10^{-4} \text{ s}$, $q? = 3,19 \times 10^{-3} \text{ C}$
42. $m = 0,3 \text{ C/s}$, $b = 3 \times 10^{-6} \text{ C}$, $t? = -8,38 \times 10^{-5} \text{ s}$, $q? = 1,96 \times 10^{-5} \text{ C}$
43. $m = -20 \text{ C/s}$, $b = -0,01 \text{ C}$, $t? = 5,2 \times 10^1 \text{ s}$, $q? = -8,3 \times 10^3 \text{ C}$
44. $m = 400 \text{ C/s}$, $b = -5 \text{ C}$, $t? = -7,9 \times 10^{-5} \text{ s}$, $q? = -4,99 \text{ C}$
45. $m = -40 \text{ C/s}$, $b = 2 \times 10^{-3} \text{ C}$, $t? = 4,45 \times 10^{-5} \text{ s}$, $q? = 5,32 \times 10^{-4} \text{ C}$
46. $m = -10 \text{ C/s}$, $b = 0,03 \text{ C}$, $t? = 4,7 \times 10^{-2} \text{ s}$, $q? = -8,58 \times 10^{-1} \text{ C}$
47. $m = 1 \text{ C/s}$, $b = 3 \times 10^{-5} \text{ C}$, $t? = -5,89 \times 10^{-4} \text{ s}$, $q? = -1,93 \times 10^{-4} \text{ C}$
48. $m = -400 \text{ C/s}$, $b = 1 \times 10^{-3} \text{ C}$, $t? = 6,2 \times 10^{-6} \text{ s}$, $q? = 2,2 \times 10^{-2} \text{ C}$

49. $m = 0,04 \text{ C/s}$, $b = 4 \times 10^{-7} \text{ C}$, $t? = 3,11 \times 10^{-5} \text{ s}$, $q? = 1,96 \times 10^{-6} \text{ C}$

50. $m = 1 \times 10^{-3} \text{ C/s}$, $b = 3 \times 10^{-7} \text{ C}$, $t? = -2,08 \times 10^{-2} \text{ s}$, $q? = -9,23 \times 10^{-5} \text{ C}$

51. $y? = -1,63 \times 10^2$, $x? = -9,84 \times 10^1$

52. $y? = -2,83 \times 10^{-1}$, $x? = -5,65 \times 10^{-3}$

53. $y? = -4,03 \times 10^{-1}$, $x? = 1,16 \times 10^{-4}$

54. $y? = 5,85 \times 10^{-1}$, $x? = 9,66$

55. $y? = -7,42 \times 10^{-1}$, $x? = 6,1 \times 10^{-1}$

56. $y? = -5 \times 10^{-4}$, $x? = 4,85 \times 10^{-6}$

57. $y? = -2,08 \times 10^3$, $x? = -5,19 \times 10^1$

58. $y? = -8,64 \times 10^{-3}$, $x? = -6,73 \times 10^{-1}$

59. $y? = -4,97 \times 10^{-2}$, $x? = -7,6 \times 10^{-1}$

60. $y? = -6,73 \times 10^2$, $x? = 3,07 \times 10^2$

61. $y? = -5,31$, $x? = 4,3 \times 10^{-2}$

62. $y? = 4 \times 10^2$, $x? = -1,09 \times 10^2$

63. $y? = -3,42 \times 10^2$, $x? = 9,19 \times 10^2$

64. $y? = -2,15 \times 10^{-3}$, $x? = -7,01 \times 10^{-3}$

65. $y? = -5,3 \times 10^{-2}$, $x? = 7,14 \times 10^{-2}$

66. $y? = 1,34 \times 10^2$, $x? = -3,78$

67. $y? = -3,48 \times 10^{-3}$, $x? = 8,27 \times 10^{-1}$

68. $y? = 1,67 \times 10^1$, $x? = 5,5 \times 10^{-2}$

69. $y? = -6 \times 10^{-4}$, $x? = -7,28 \times 10^{-5}$

70. $y? = -2,25 \times 10^{-1}$, $x? = -1,65 \times 10^{-6}$

71. $y? = 8,11 \times 10^{-3}$, $x? = -2,21 \times 10^{-2}$

72. $y? = 2 \times 10^{-1}$, $x? = -5,3 \times 10^{-6}$

73. $y? = -5,04 \times 10^{-1}$, $x? = 4,89 \times 10^{-4}$

74. $y? = -3,85 \times 10^1$, $x? = -1,06 \times 10^{-1}$

75. $y? = -7,35 \times 10^{-1}$, $x? = 8,78$
76. $q? = -1,88 \times 10^{-2} C$, $t? = -4,84 \times 10^{-3} s$
77. $q? = 1,2 \times 10^4 C$, $t? = -8,29 \times 10^3 s$
78. $q? = 1,88 \times 10^{-1} C$, $t? = -5,37 s$
79. $q? = -5,95 \times 10^{-4} C$, $t? = 5,92 \times 10^{-3} s$
80. $q? = 1,12 \times 10^{-4} C$, $t? = 7,82 \times 10^{-3} s$
81. $q? = 2,35 C$, $t? = 2,2 \times 10^2 s$
82. $q? = 2,66 \times 10^1 C$, $t? = 4,25 \times 10^{-1} s$
83. $q? = 3,17 \times 10^3 C$, $t? = 4,45 \times 10^1 s$
84. $q? = -2,2 C$, $t? = -6,53 \times 10^2 s$
85. $q? = -1,03 \times 10^{-6} C$, $t? = 9,68 \times 10^{-5} s$
86. $q? = 1,54 \times 10^6 C$, $t? = 9,6 \times 10^2 s$
87. $q? = 3,99 \times 10^2 C$, $t? = -7,44 s$
88. $q? = 2,98 C$, $t? = 8,27 s$
89. $q? = 6 C$, $t? = 9,14 \times 10^{-5} s$
90. $q? = -5,15 \times 10^2 C$, $t? = 3,57 \times 10^1 s$
91. $q? = -4,04 \times 10^{-5} C$, $t? = 3,9 \times 10^{-3} s$
92. $q? = 4 \times 10^2 C$, $t? = -1,09 \times 10^2 s$
93. $q? = -3,42 \times 10^2 C$, $t? = 9,19 \times 10^2 s$
94. $q? = -2,15 \times 10^{-3} C$, $t? = -7,01 \times 10^{-3} s$
95. $q? = 7,14 \times 10^{-2} C$, $t? = -5,3 \times 10^{-2} s$
96. $q? = 3,57 \times 10^4 C$, $t? = -8,48 \times 10^3 s$
97. $q? = 1,34 \times 10^2 C$, $t? = -3,78 s$
98. $q? = -3,48 \times 10^{-3} C$, $t? = 8,27 \times 10^{-1} s$
99. $q? = 1,67 \times 10^1 C$, $t? = 5,5 \times 10^{-2} s$
100. $q? = -6 \times 10^{-4} C$, $t? = -7,28 \times 10^{-5} s$