

Linear Function, 1

This set of exercises aims to help you to understand the relationship between the linear equation and its graph. We start by identifying if the slope is positive or negative, then computing the slope of a given line, to continue with the evaluation of the y intercept of a line, then computing the entire equation of a line, to finish plotting a line given its equation. All the lines are written using the form: $y = mx + b$.

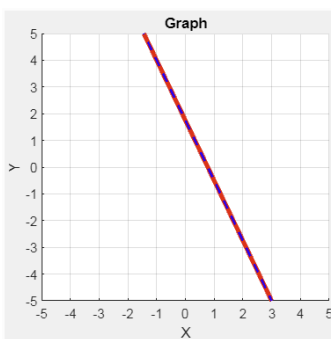
All questions and answers were defined as multiples of 0,25, which may help a lot.

Solved examples on Youtube:



<https://youtu.be/2q30U1SVsBE>

Example: Compute the equation of the line:

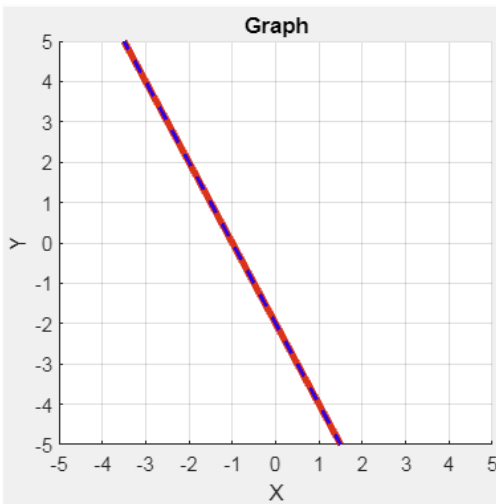


Solution: given two points, for instance, $(-1, 4)$, $(3, -5)$, then $m = (-5 - 4)/(3 - (-1))$, $m = -2,25$. Looking the plot $b = 1,5$, thus $y = -2,25x + 1,5$

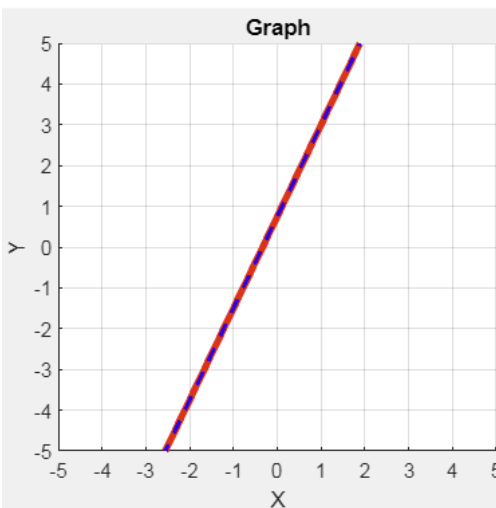
Answer:

$$y = -2,25x + 1,5$$

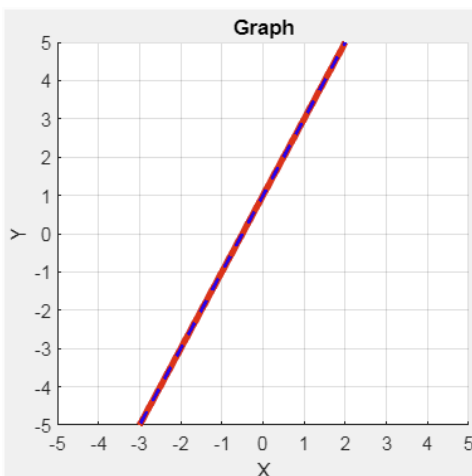
1. Identify the sign of the slope (positive or negative):



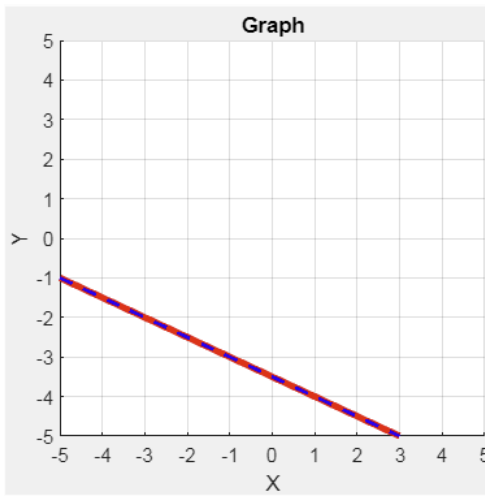
2. Identify the sign of the slope (positive or negative):



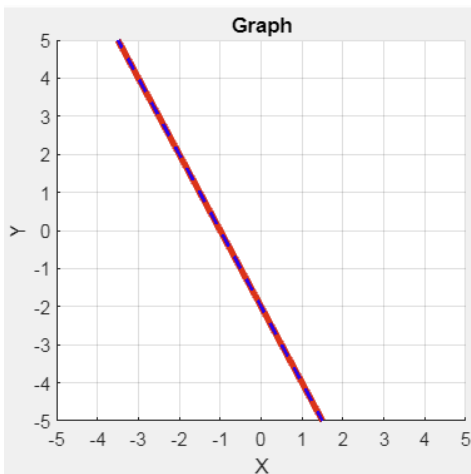
3. Identify the sign of the slope (positive or negative):



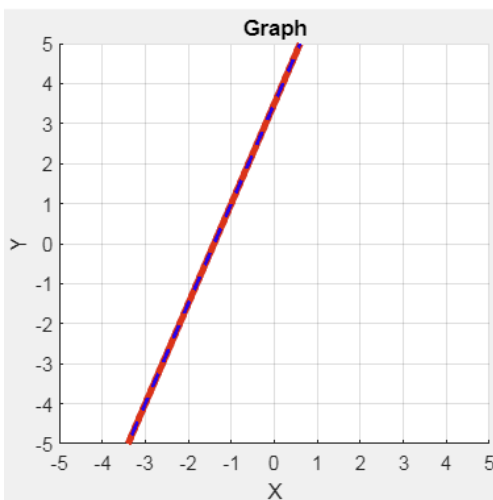
4. Identify the sign of the slope (positive or negative):



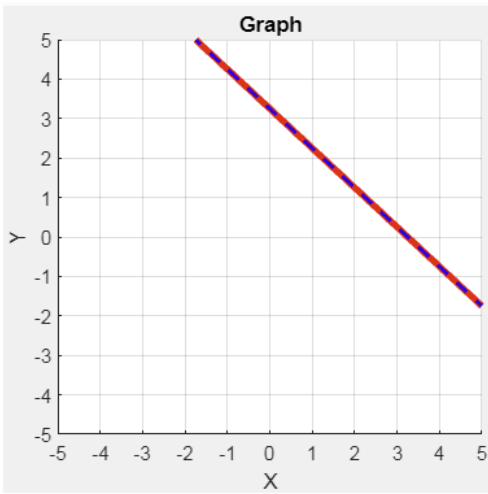
5. Identify the sign of the slope (positive or negative):



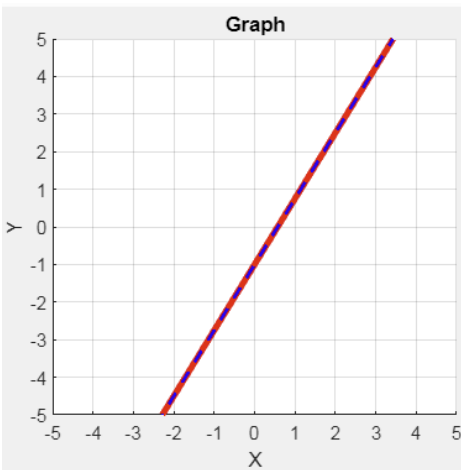
6. Identify the sign of the slope (positive or negative):



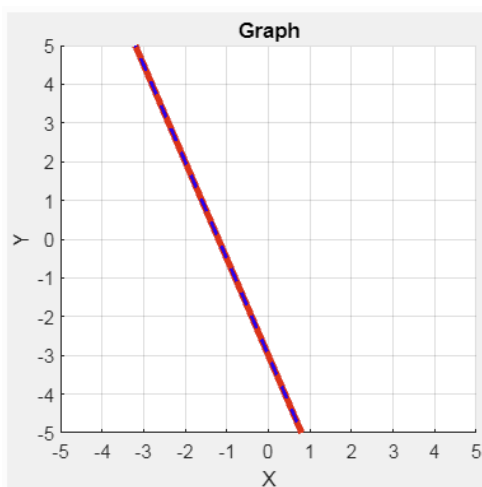
7. Identify the sign of the slope (positive or negative):



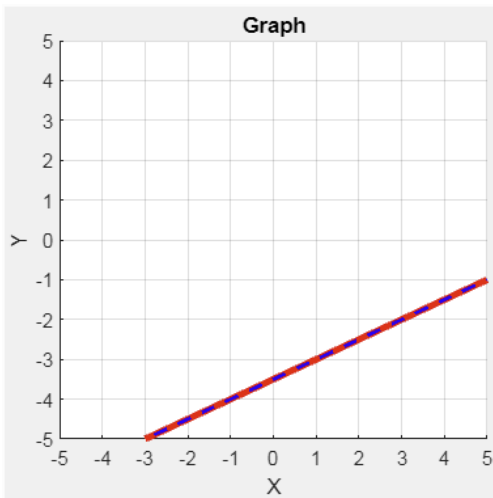
8. Identify the sign of the slope (positive or negative):



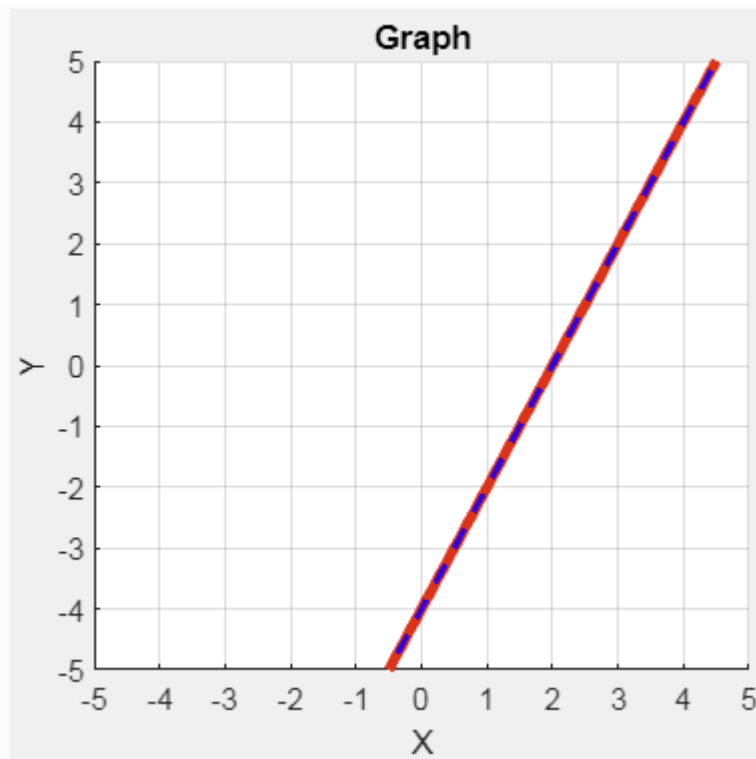
9. Identify the sign of the slope (positive or negative):



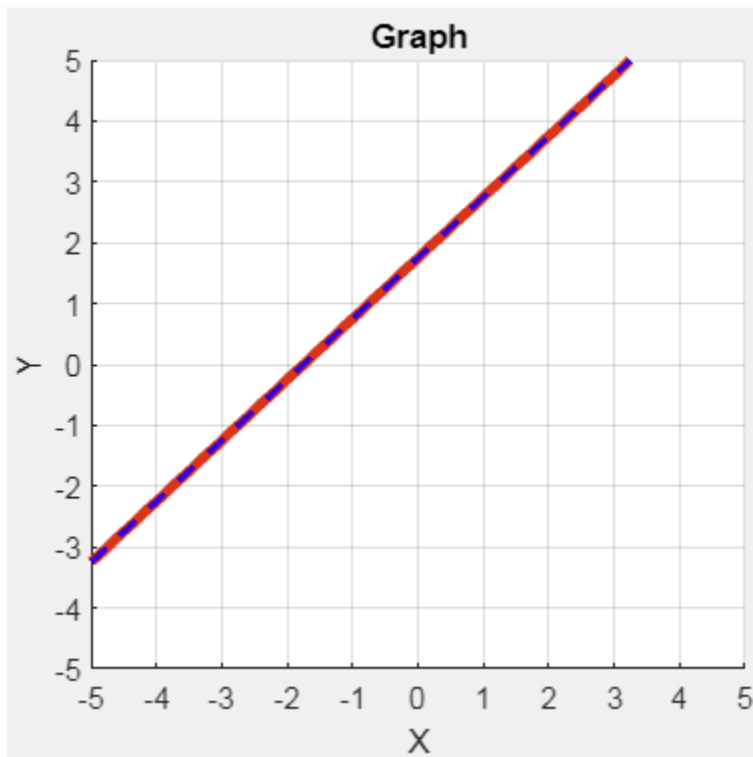
10. Identify the sign of the slope (positive or negative):



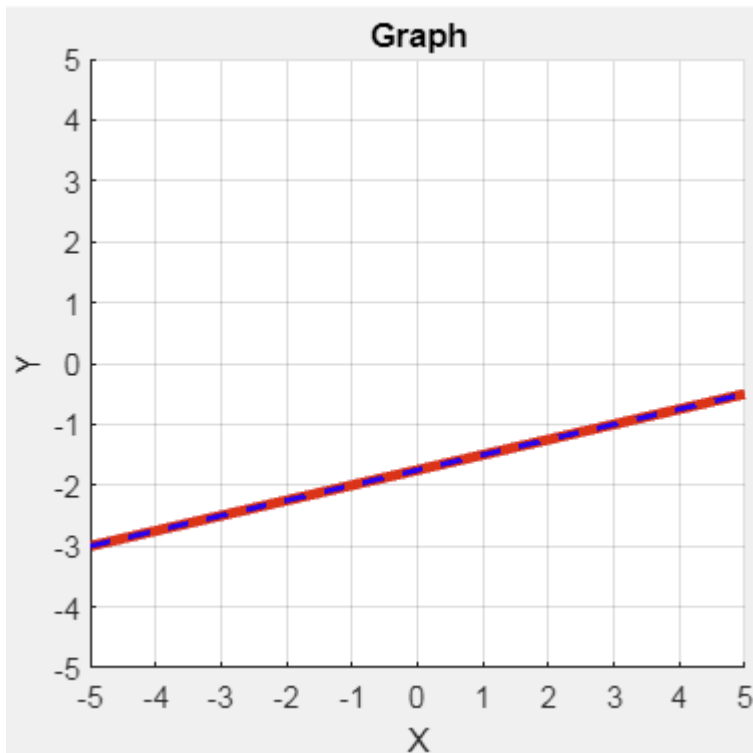
11. Compute the slope of the following line. Do not use any electronic device. Do not use any electronic device.



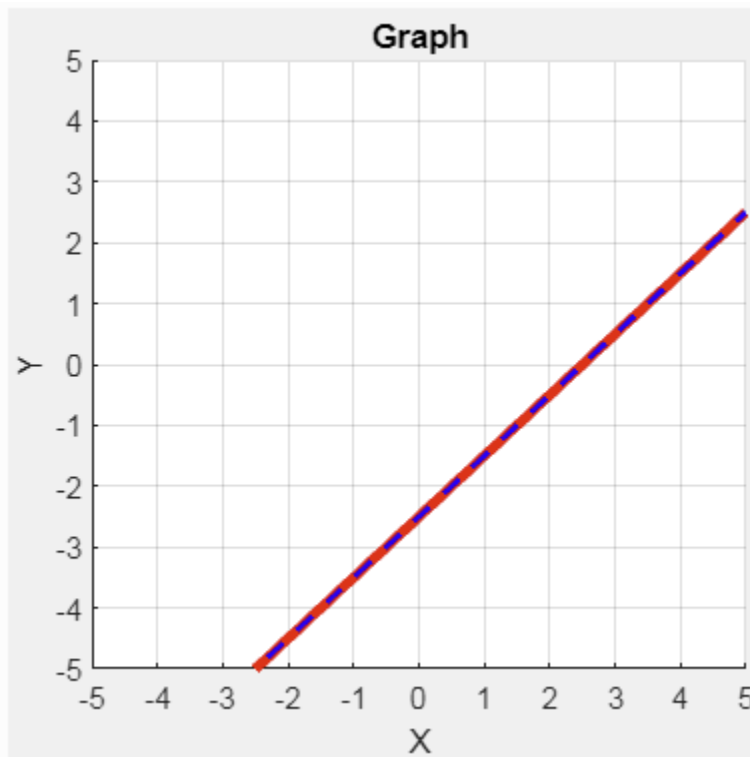
12. Compute the slope of the following line. Do not use any electronic device.



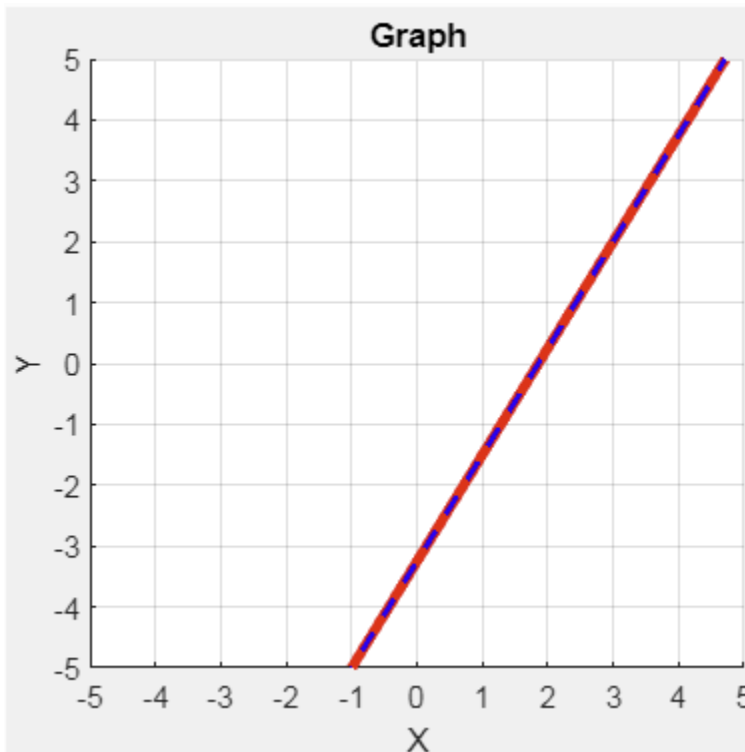
13. Compute the slope of the following line. Do not use any electronic device.



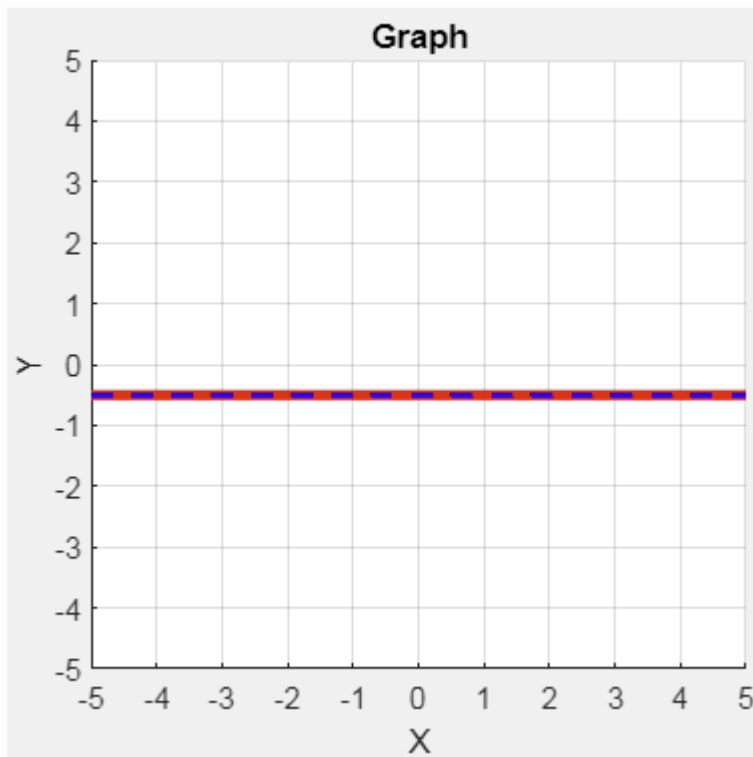
14. Compute the slope of the following line. Do not use any electronic device.



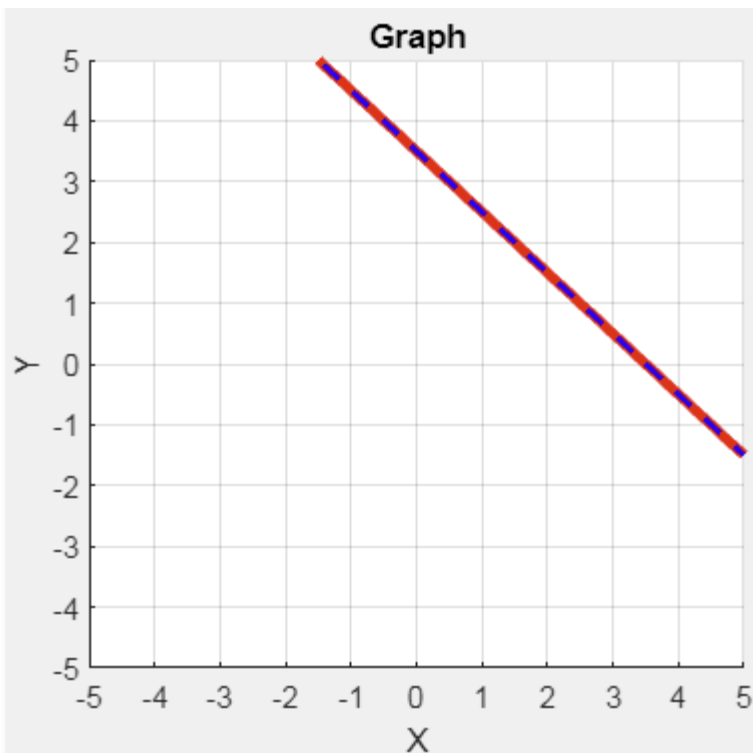
15. Compute the slope of the following line. Do not use any electronic device.



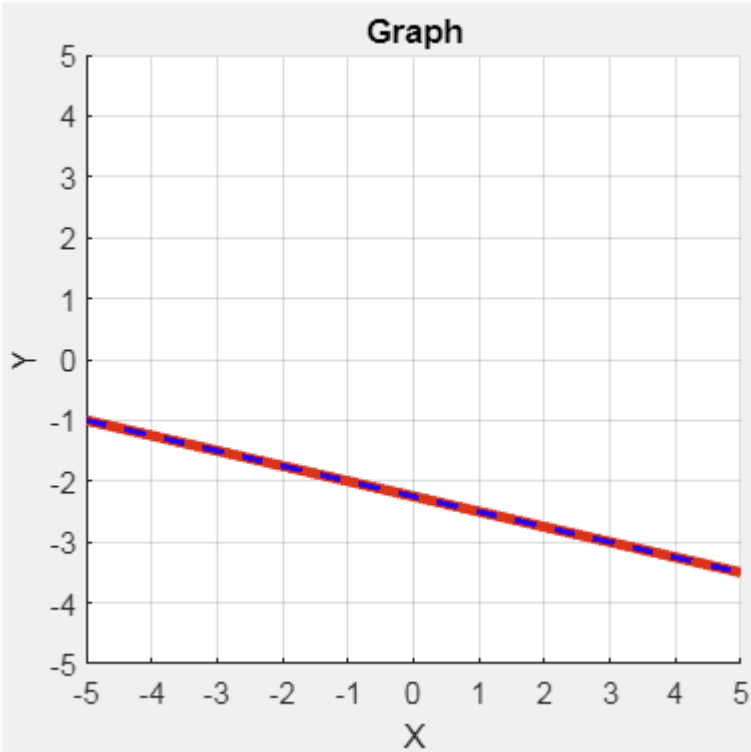
16. Compute the slope of the following line. Do not use any electronic device.



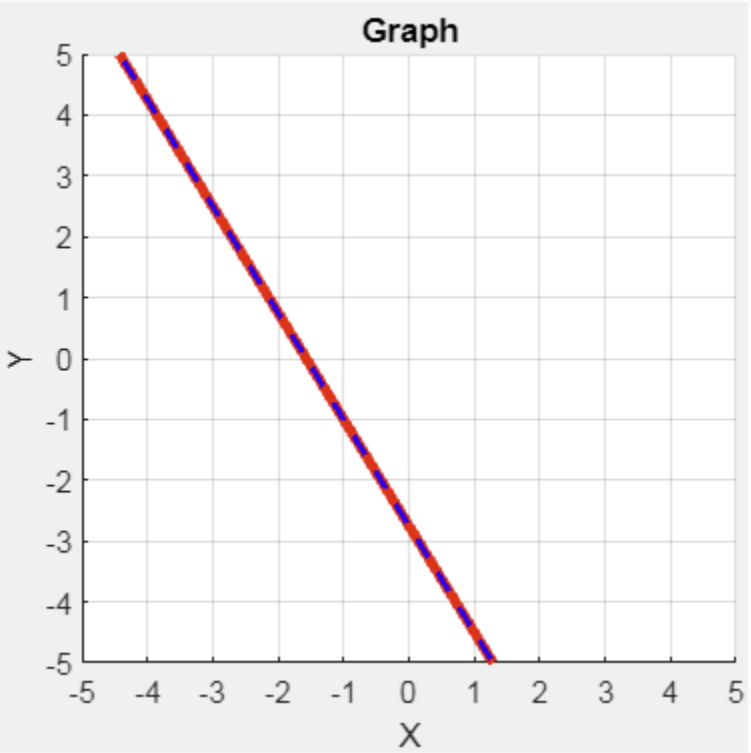
17. Compute the slope of the following line. Do not use any electronic device.



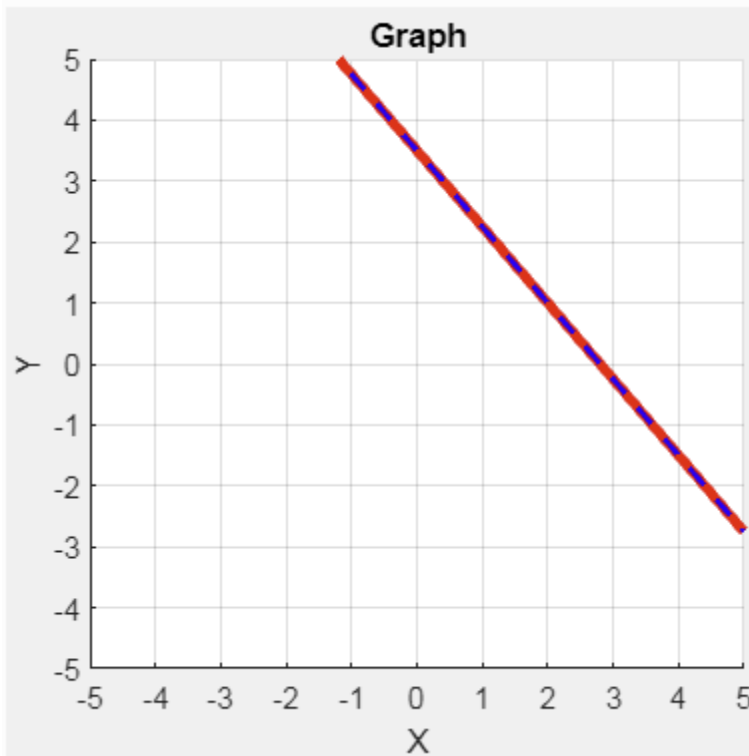
18. Compute the slope of the following line. Do not use any electronic device.



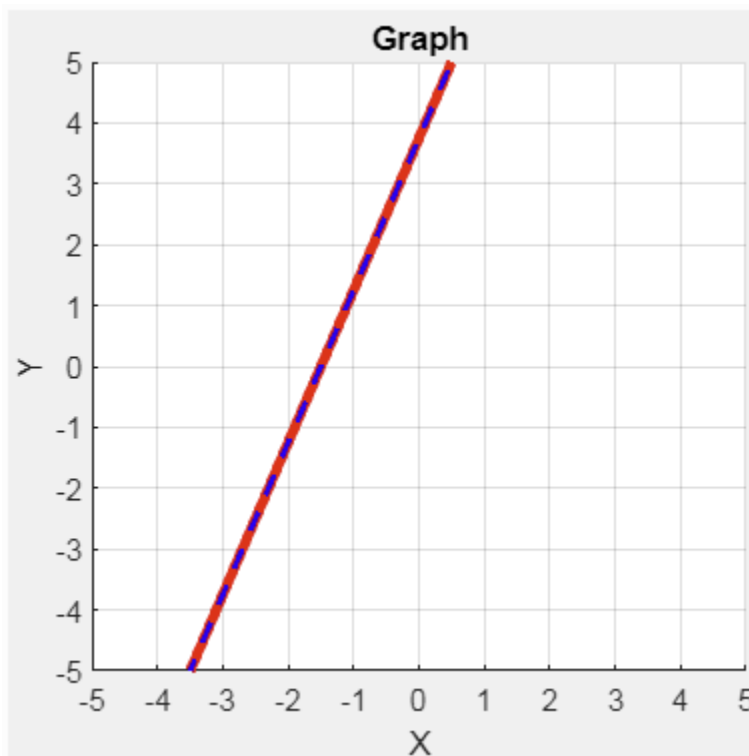
19. Compute the slope of the following line. Do not use any electronic device.



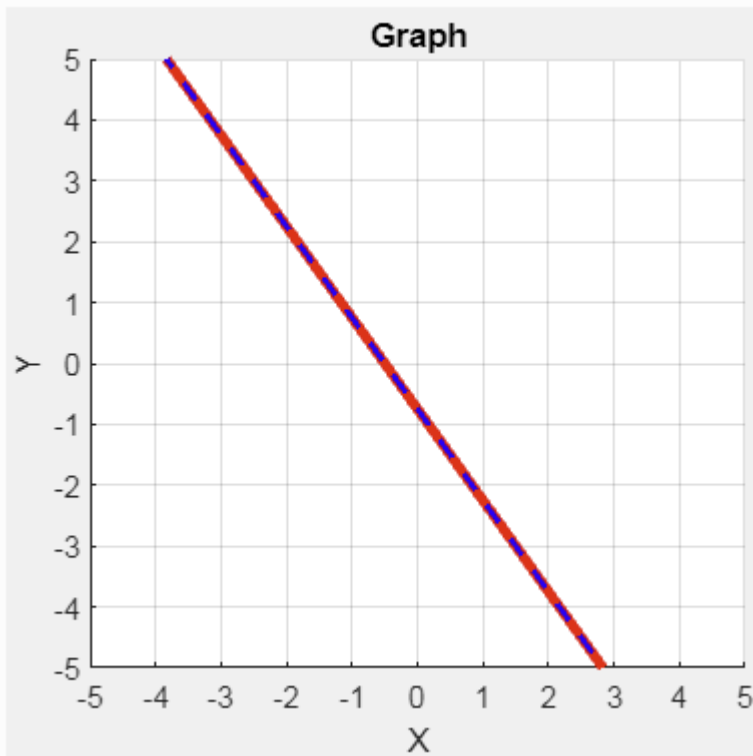
20. Compute the slope of the following line. Do not use any electronic device.



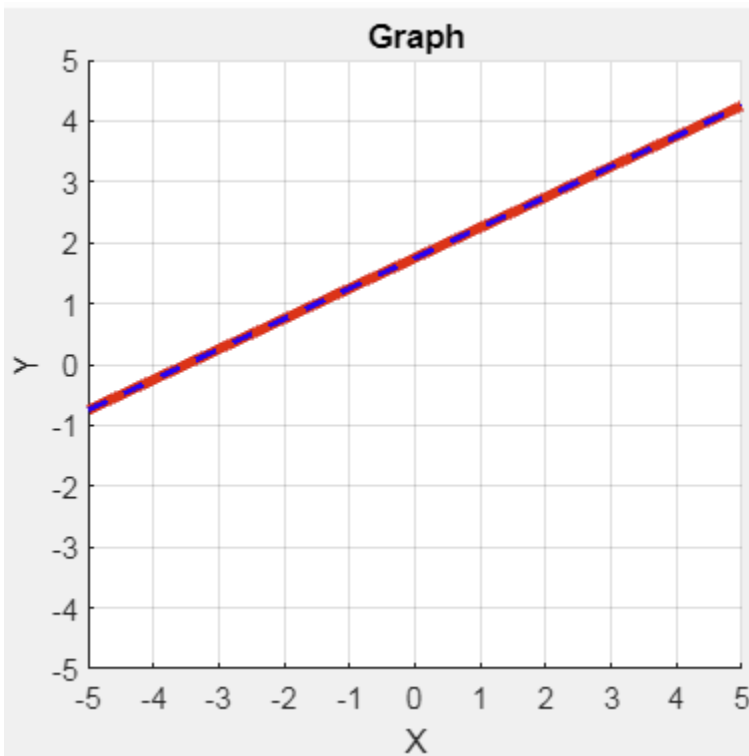
21. Given the following line, compute the intercept with the y axis.



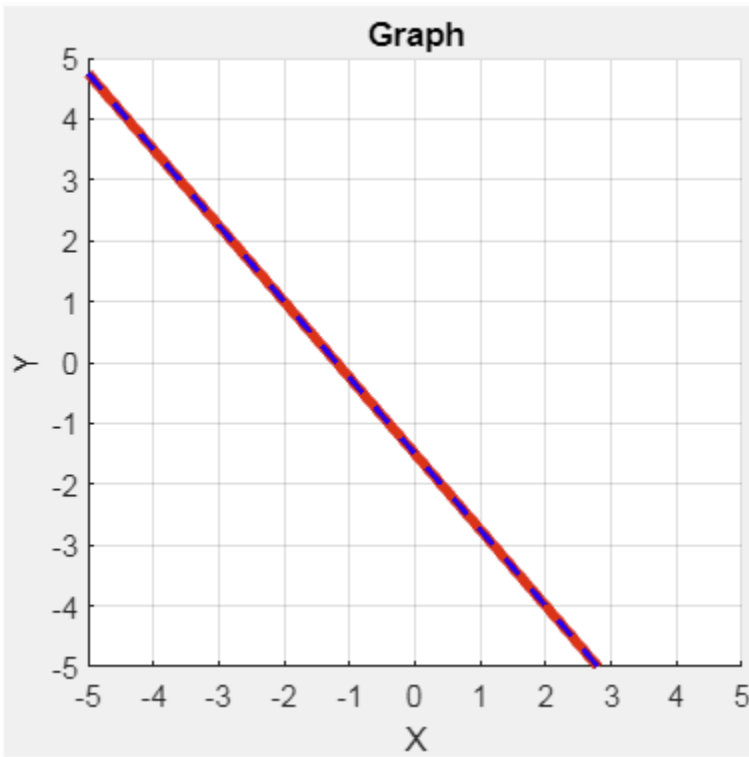
22. Given the following line, compute the intercept with the y axis.



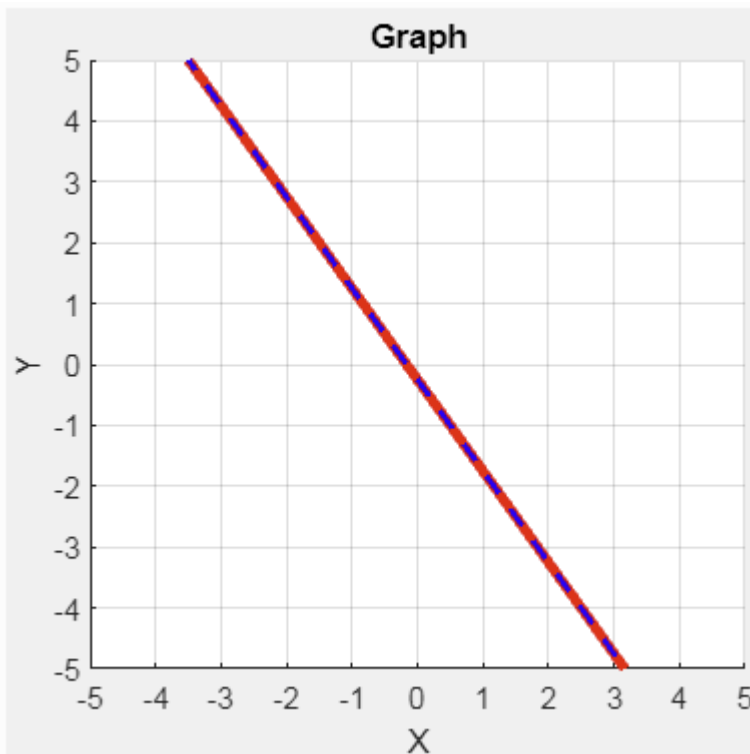
23. Given the following line, compute the intercept with the y axis.



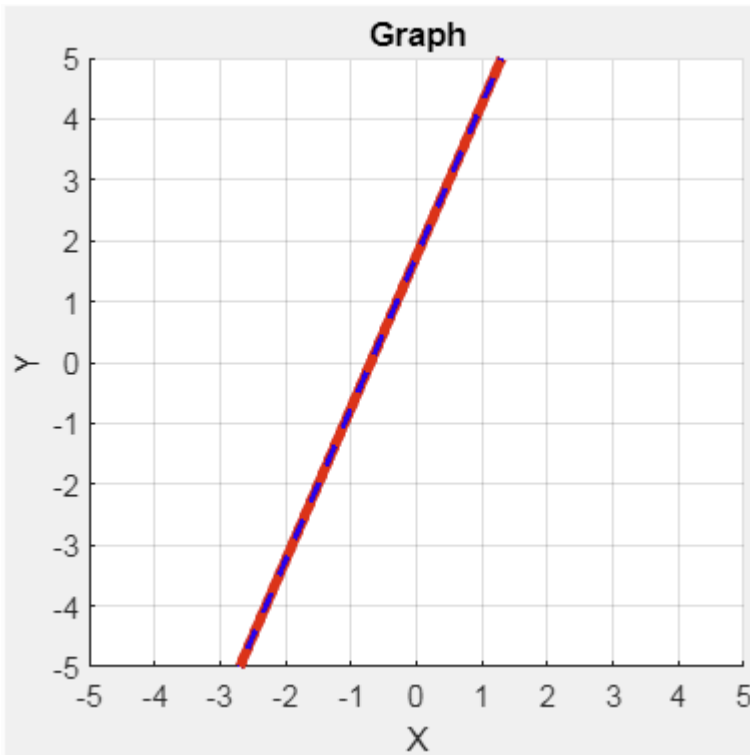
24. Given the following line, compute the intercept with the y axis.



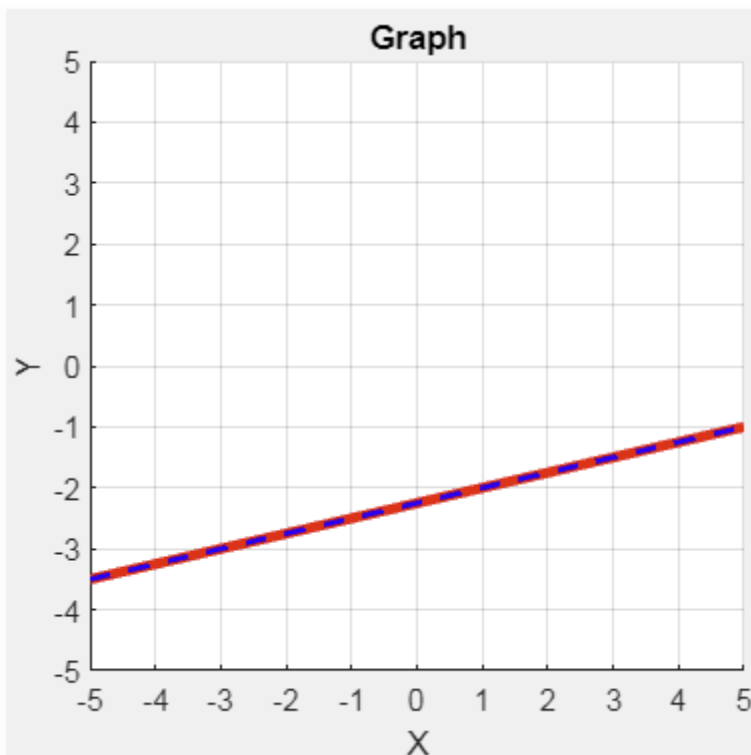
25. Given the following line, compute the intercept with the y axis.



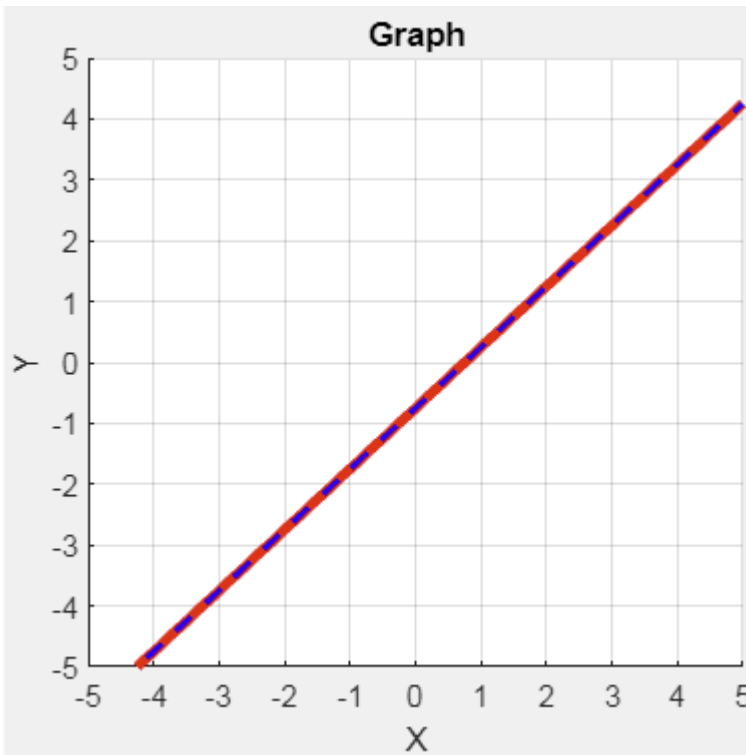
26. Given the following line, compute the intercept with the y axis.



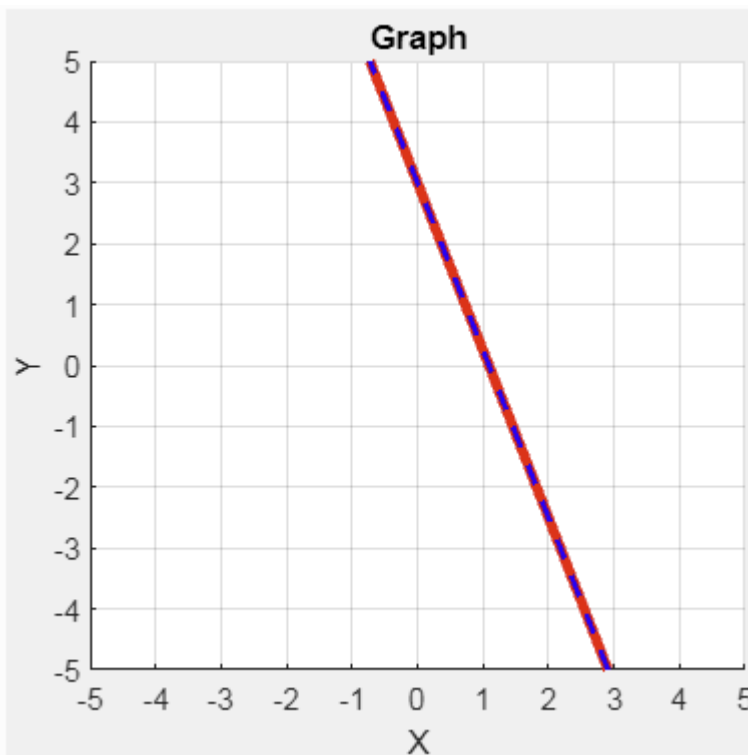
27. Given the following line, compute the intercept with the y axis.



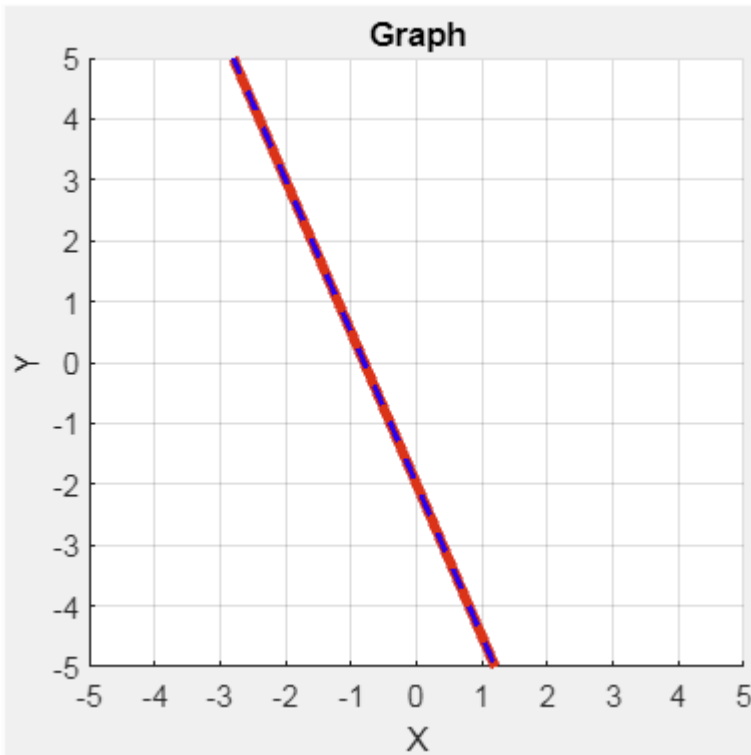
28. Given the following line, compute the intercept with the y axis.



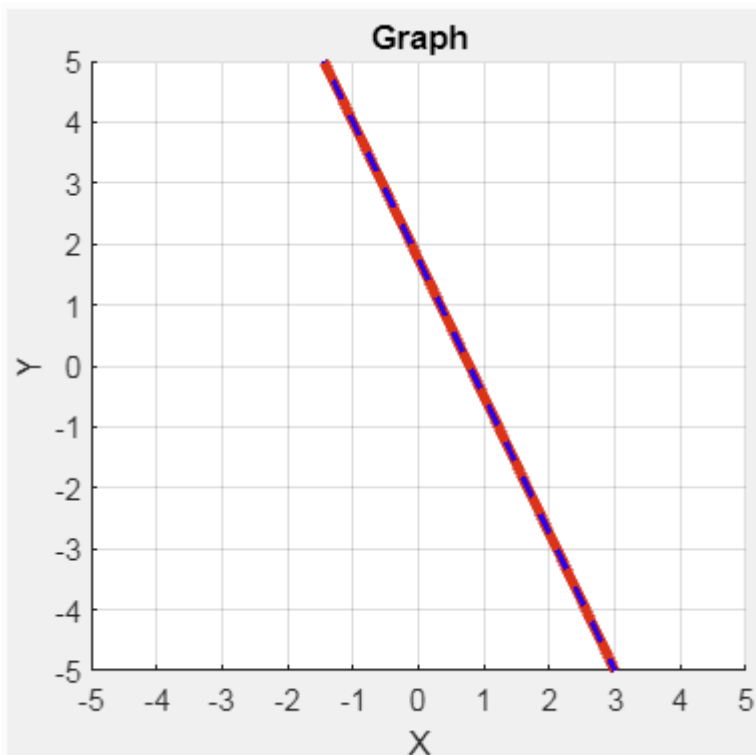
29. Given the following line, compute the intercept with the y axis.



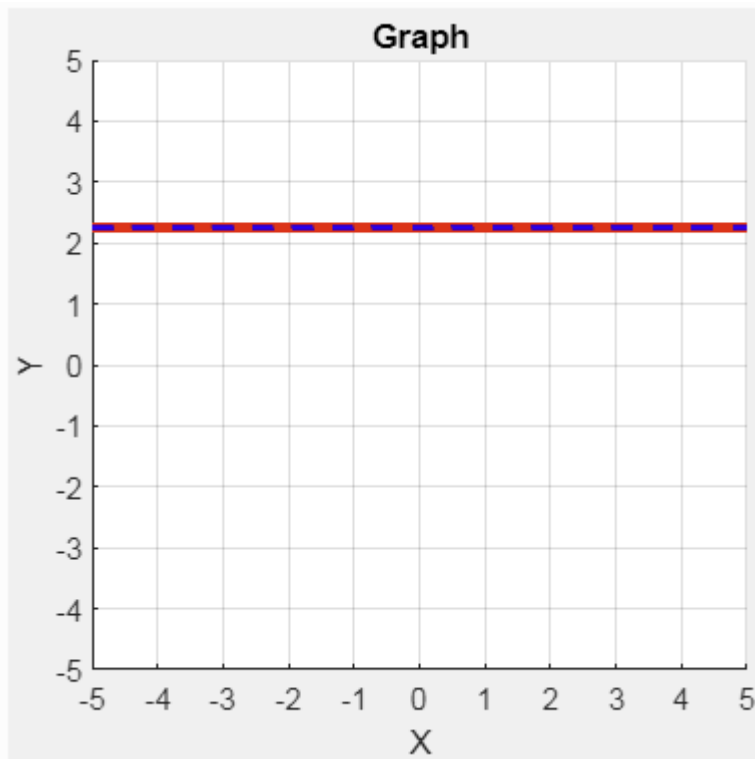
30. Given the following line, compute the intercept with the y axis.



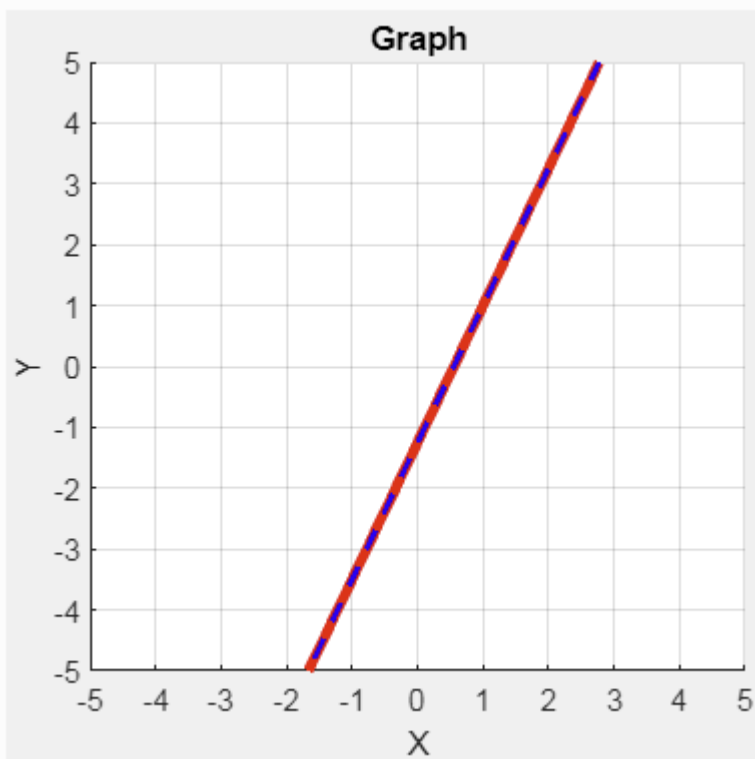
31. Compute the equation of the following line.



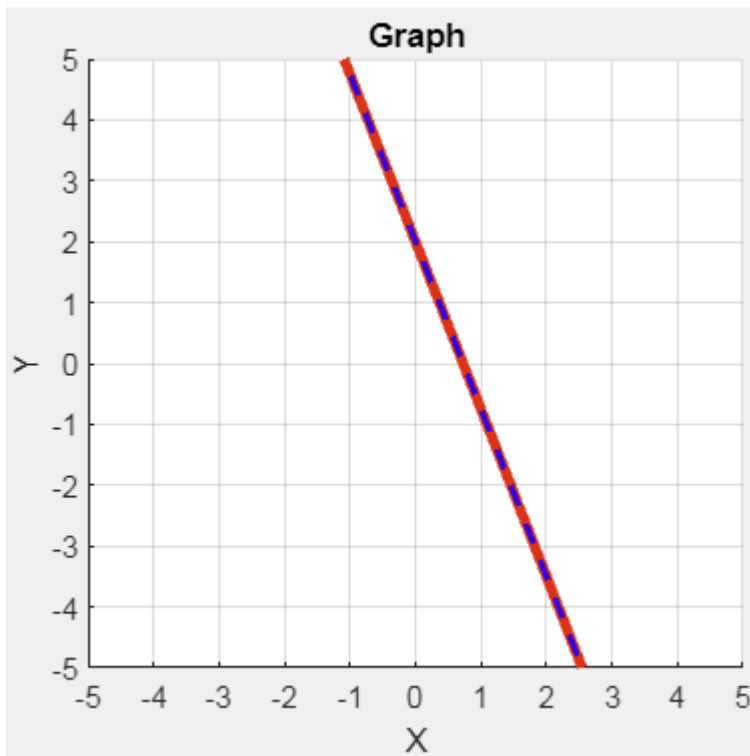
32. Compute the equation of the following line.



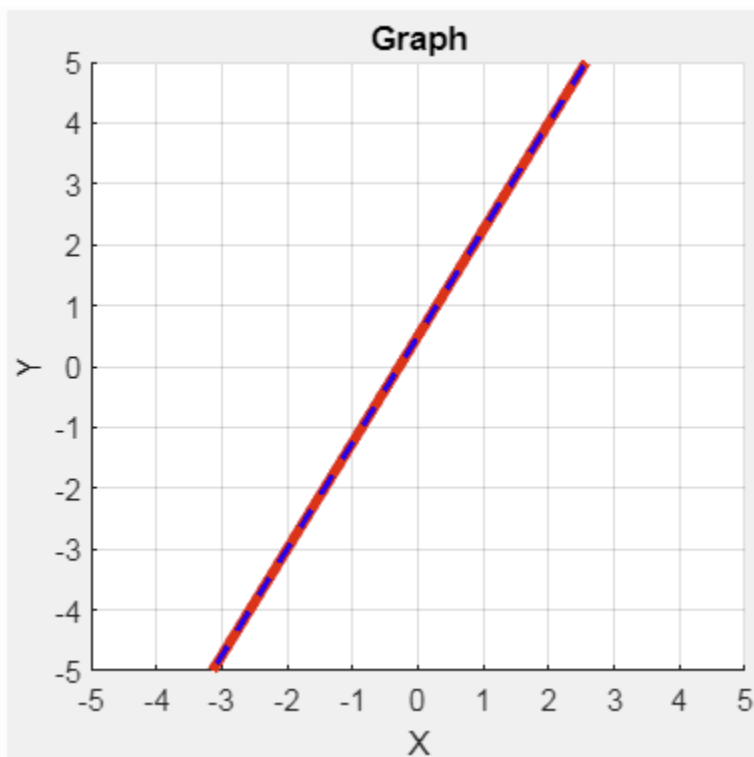
33. Compute the equation of the following line.



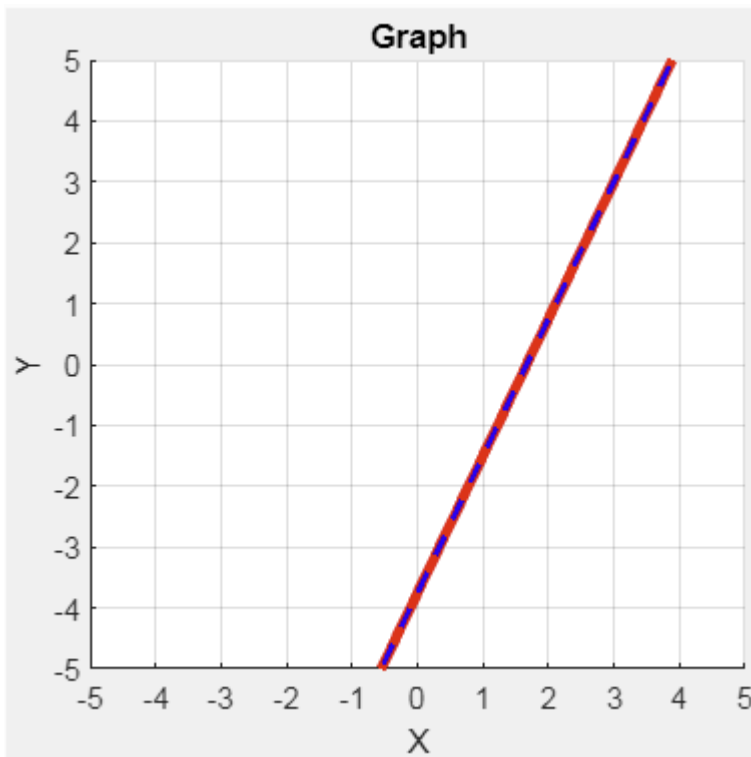
34. Compute the equation of the following line.



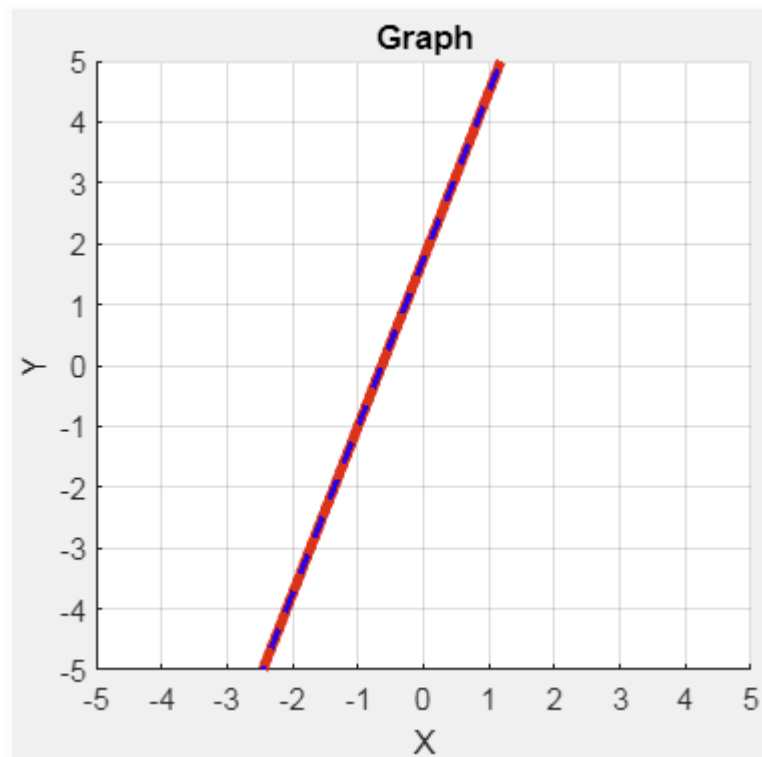
35. Compute the equation of the following line.



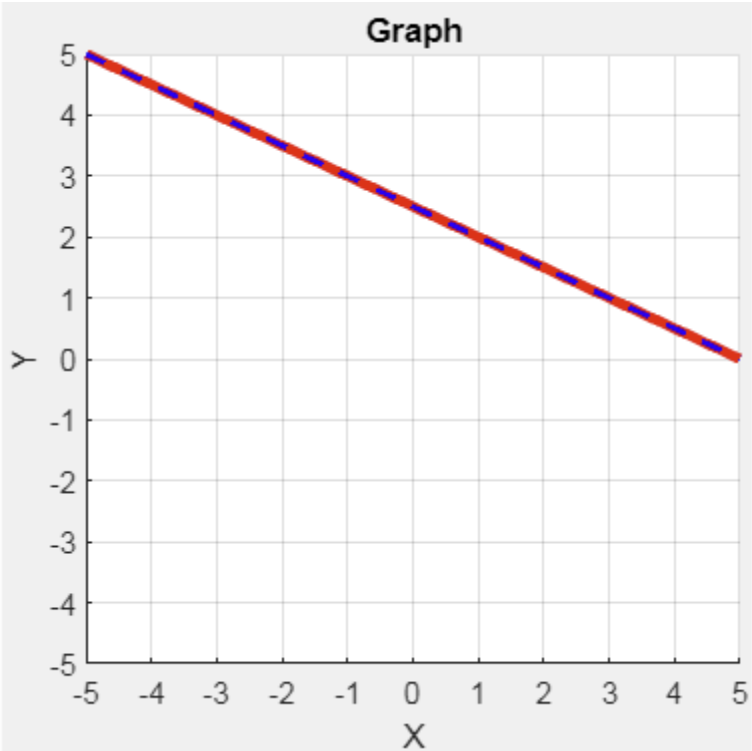
36. Compute the equation of the following line.



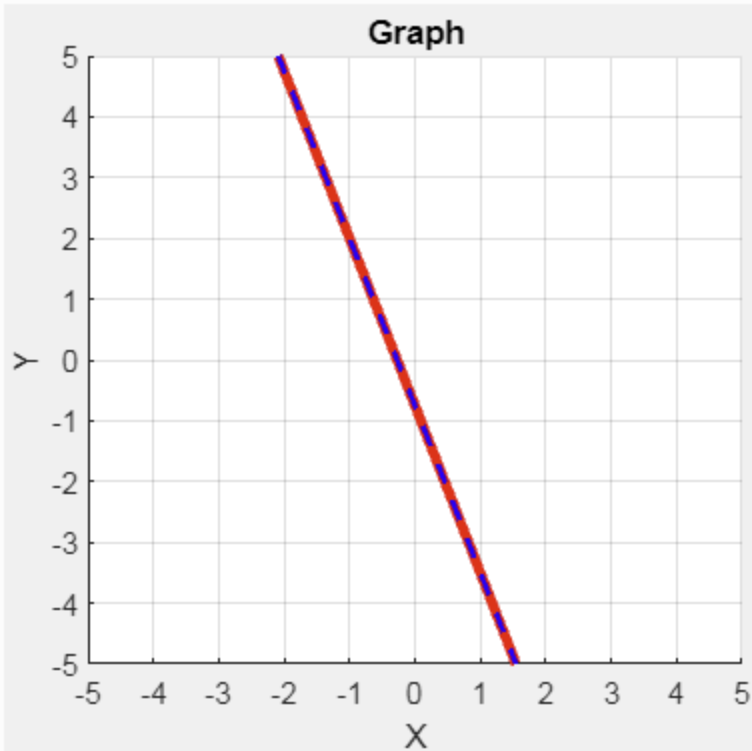
37. Compute the equation of the following line.



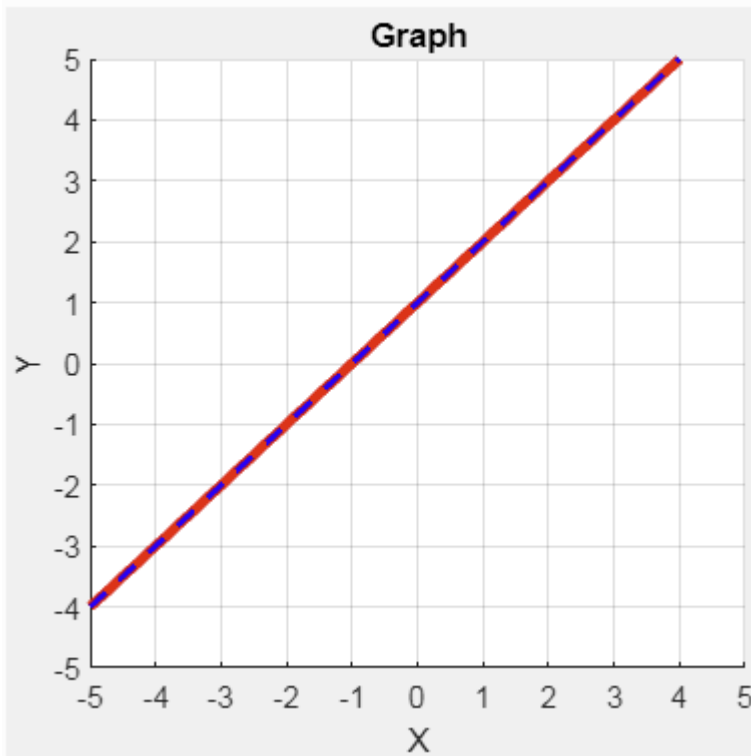
38. Compute the equation of the following line.



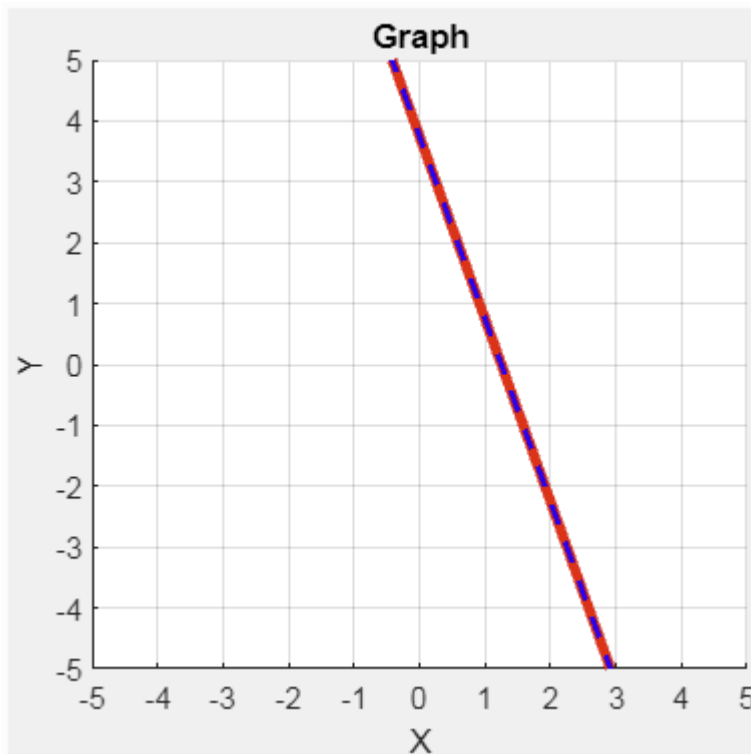
39. Compute the equation of the following line.



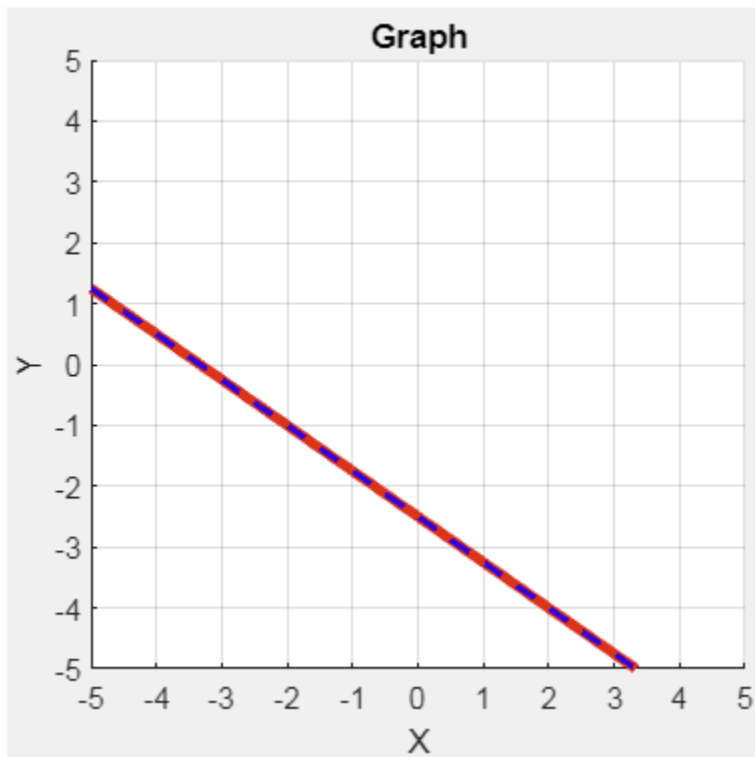
40. Compute the equation of the following line.



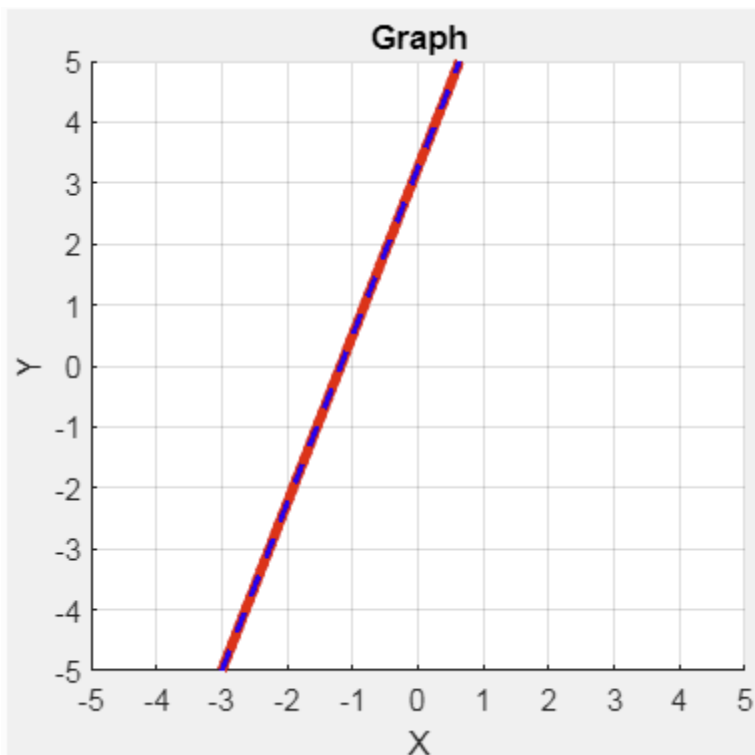
41. Compute the equation of the following line.



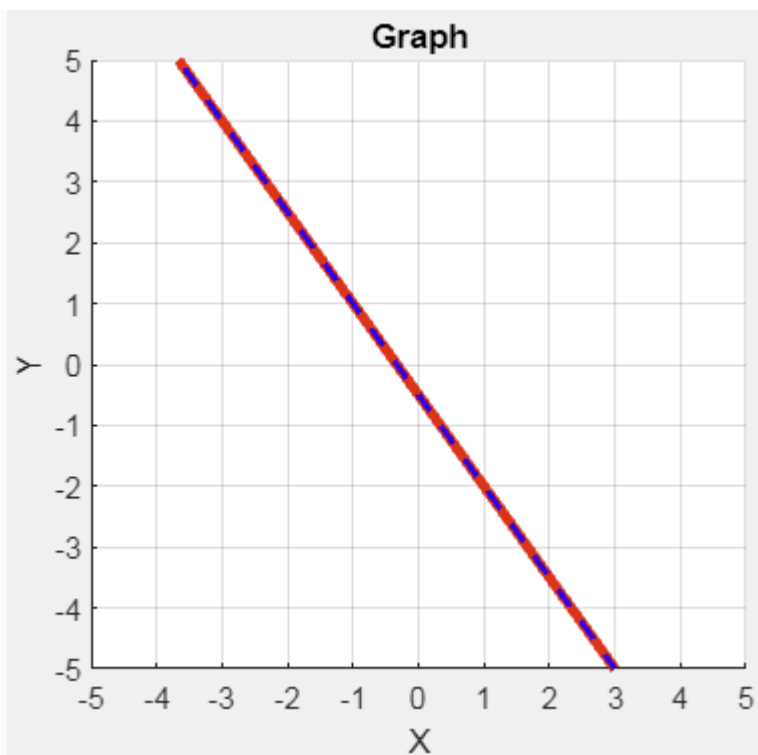
42. Compute the equation of the following line.



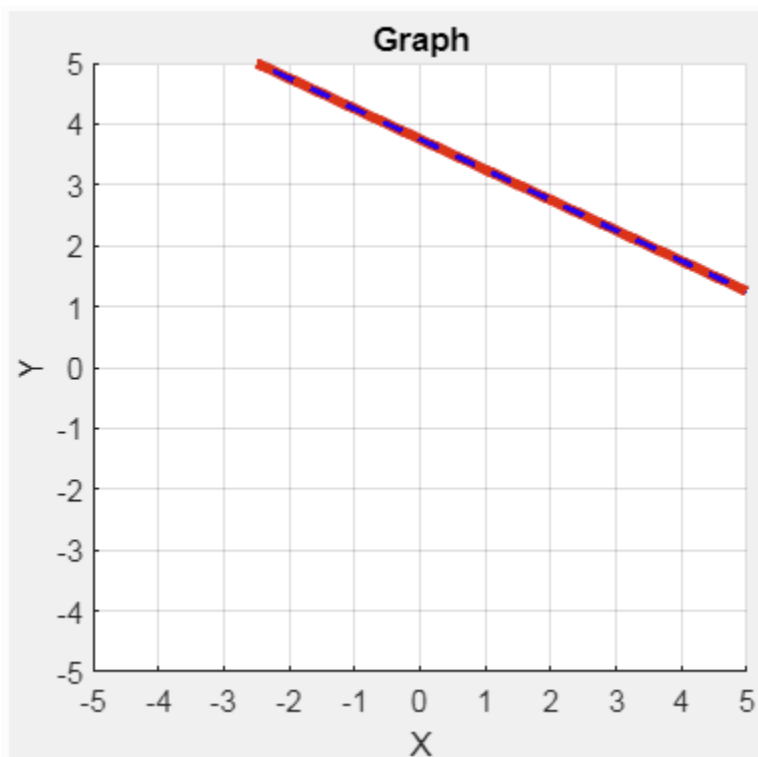
43. Compute the equation of the following line.



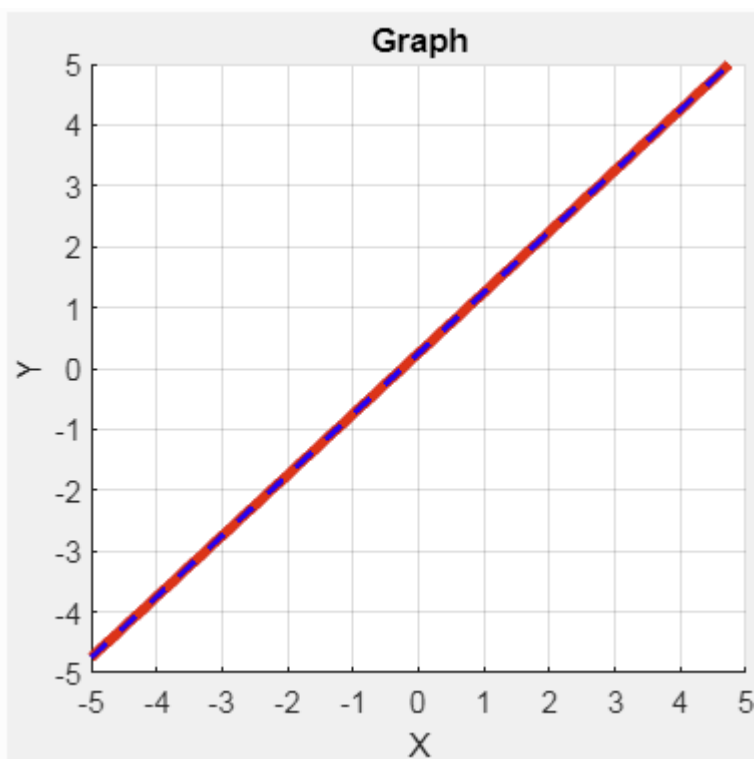
44. Compute the equation of the following line.



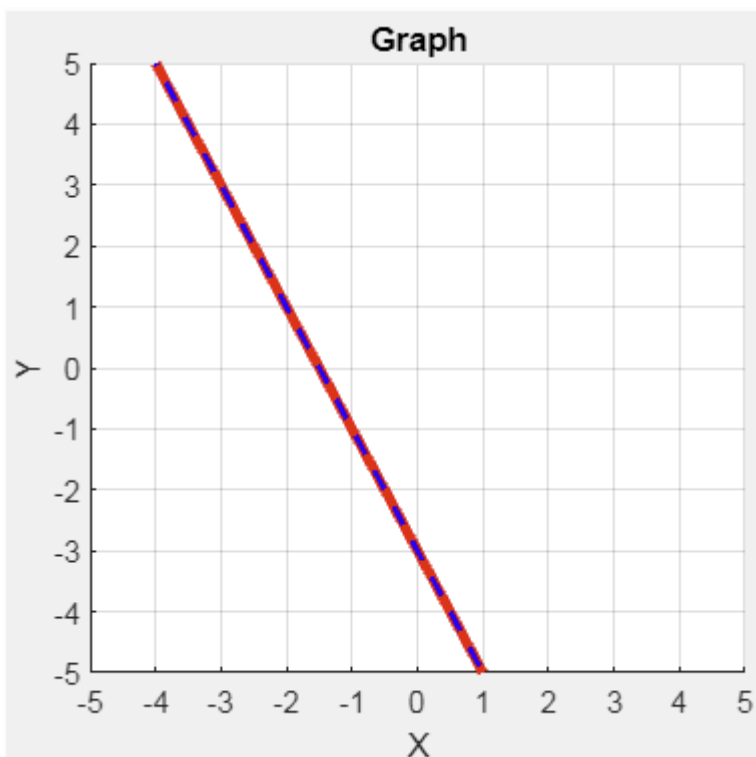
45. Compute the equation of the following line.



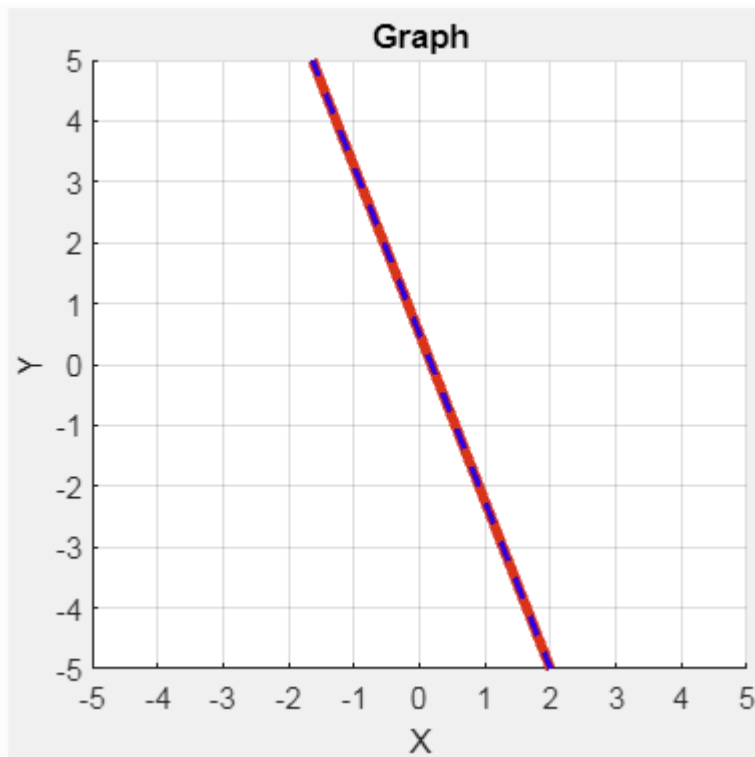
46. Compute the equation of the following line.



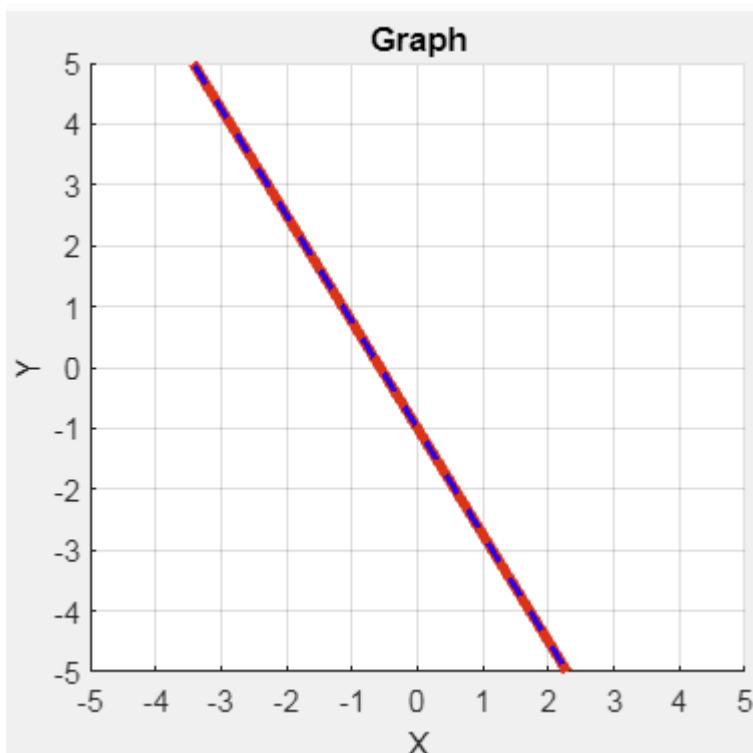
47. Compute the equation of the following line.



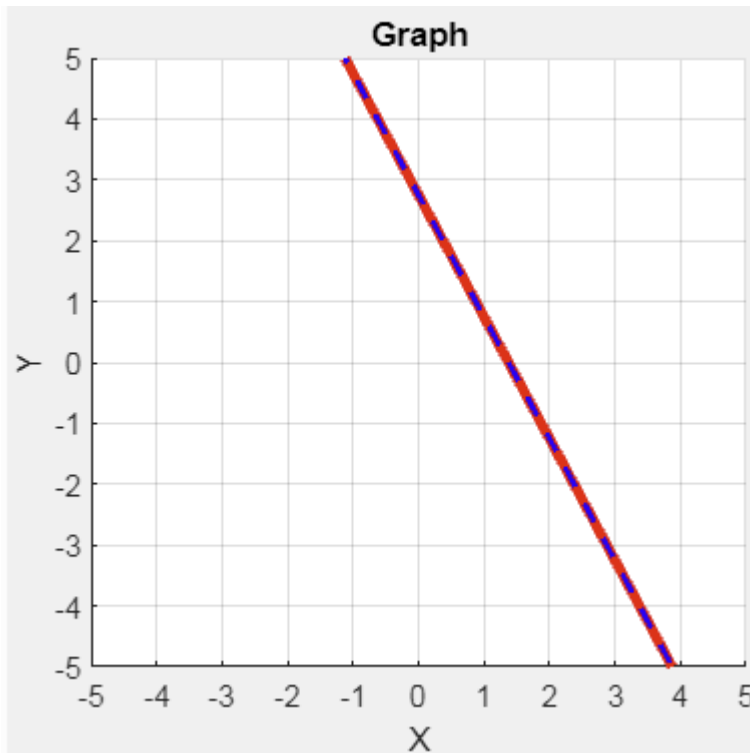
48. Compute the equation of the following line.



49. Compute the equation of the following line.



50. Compute the equation of the following line.



51. Plot the following equation: $y = 1,25x + 2$. Do not use any electronic device.
52. Plot the following equation: $y = x - 2,75$. Do not use any electronic device.
53. Plot the following equation: $y = 2,75x - 1,25$. Do not use any electronic device.
54. Plot the following equation: $y = 1,5x - 2$. Do not use any electronic device.
55. Plot the following equation: $y = 2,25x + 3,75$. Do not use any electronic device.
56. Plot the following equation: $y = -2x - 2$. Do not use any electronic device.
57. Plot the following equation: $y = -1,75x - 2$. Do not use any electronic device.
58. Plot the following equation: $y = -x + 2,75$. Do not use any electronic device.
59. Plot the following equation: $y = 2,5x - 1,75$. Do not use any electronic device.
60. Plot the following equation: $y = -0,75x + 0,5$. Do not use any electronic device.
61. Plot the following equation: $y = 0,25x + 2,25$. Do not use any electronic device.
62. Plot the following equation: $y = 0,5x - 0,25$. Do not use any electronic device.
63. Plot the following equation: $y = -2x + 2,25$. Do not use any electronic device.

64. Plot the following equation: $y = -2x + 0,75$. Do not use any electronic device.
65. Plot the following equation: $y = 1,25x + 2$. Do not use any electronic device.
66. Plot the following equation: $y = -1,75x + 3,25$. Do not use any electronic device.
67. Plot the following equation: $y = 0,25x + 4$. Do not use any electronic device.
68. Plot the following equation: $y = -2,25x + 3,75$. Do not use any electronic device.
69. Plot the following equation: $y = 2x + 3$. Do not use any electronic device.
70. Plot the following equation: $y = -1,5x + 2,5$. Do not use any electronic device.

Answers:

1. Negative
2. Positive
3. Positive
4. Negative
5. Negative
6. Positive
7. Negative
8. Positive
9. Negative
10. Positive
11. $m = 2$
12. $m = 1$
13. $m = 0,25$
14. $m = 1$
15. $m = 1,75$
16. $m = 0$
17. $m = -1$

18. $m = -0,25$
19. $m = -1,75$
20. $m = -1,25$
21. $b = 3,75$
22. $b = -0,75$
23. $b = 1,75$
24. $b = -1,5$
25. $b = -0,25$
26. $b = 1,75$
27. $b = -2,25$
28. $b = -0,75$
29. $b = 3$
30. $b = -2$
31. $y = -2,25x + 1,75$
32. $y = 2,25$
33. $y = 2,25x - 1,25$
34. $y = -2,75x + 2$
35. $y = 1,75x + 0,5$
36. $y = 2,25x - 3,75$
37. $y = 2,75x + 1,75$
38. $y = -0,5x + 2,5$
39. $y = -2,75x - 0,75$
40. $y = x + 1$
41. $y = -3x + 3,75$
42. $y = -0,75x - 2,5$
43. $y = 2,75x + 3,25$
44. $y = -1,5x - 0.5$

45. $y = -0,5x + 3,75$

46. $y = 1 + 0,25x$

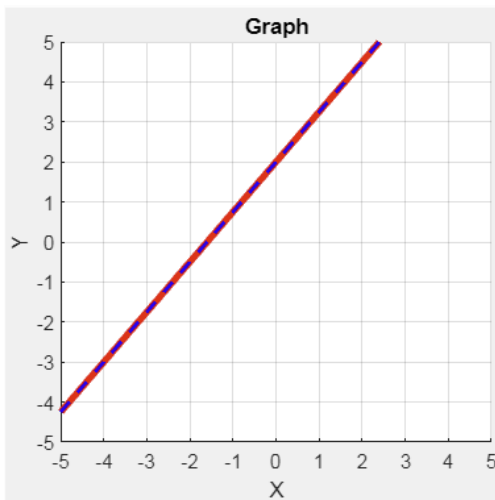
47. $y = -2x - 3$

48. $y = -2,75x + 0,5$

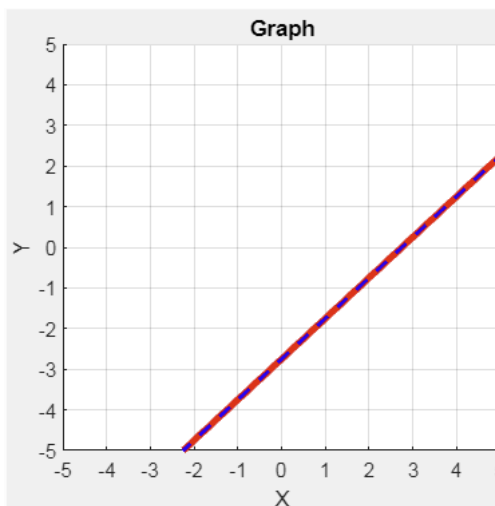
49. $y = -1,75x - 1$

50. $y = -2x + 2,75$

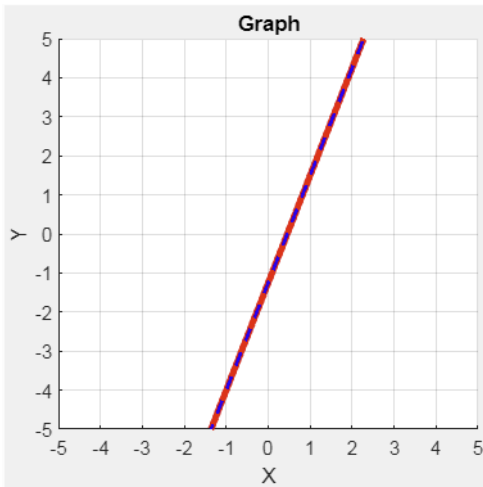
51.



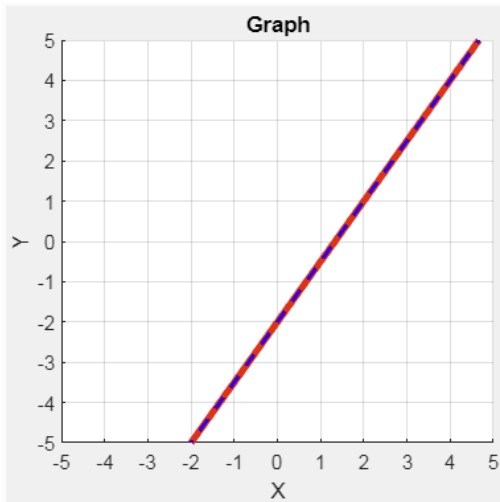
52.



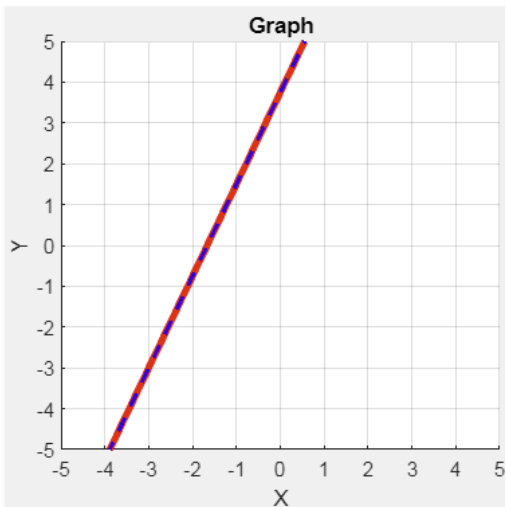
53.



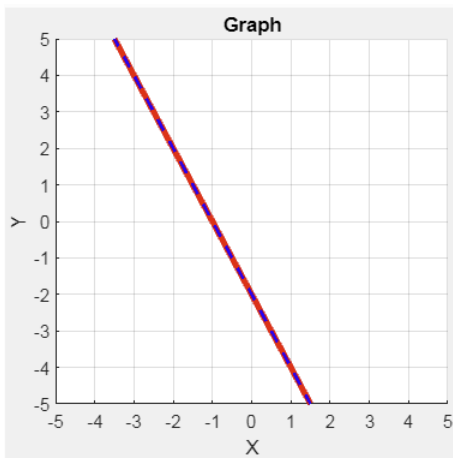
54.



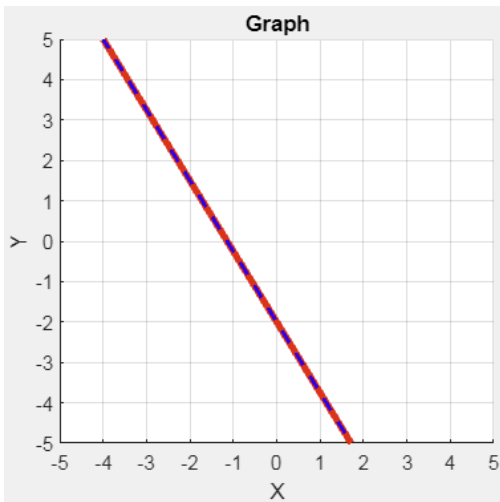
55.



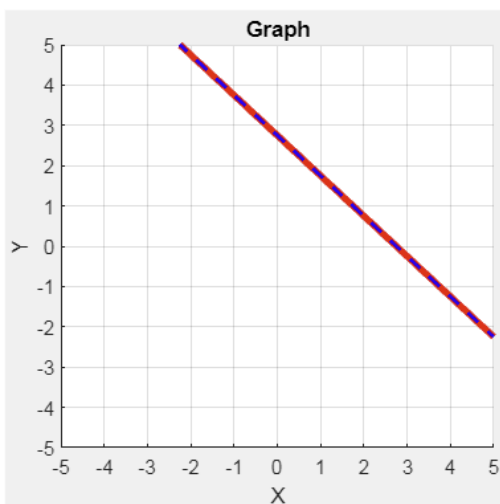
56.



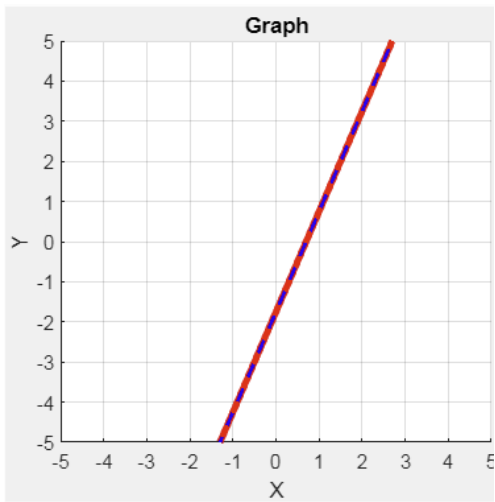
57.



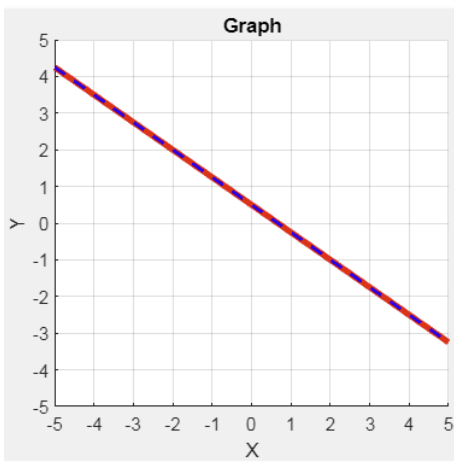
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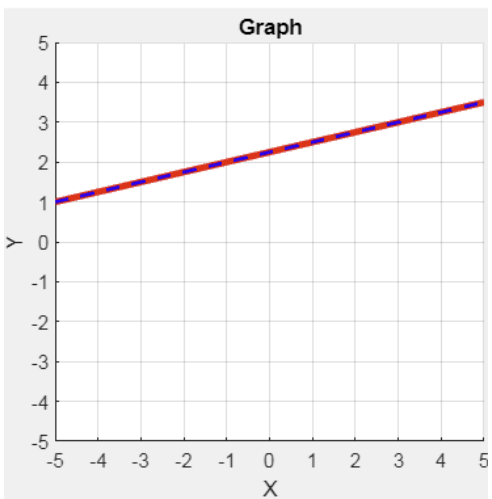
59.



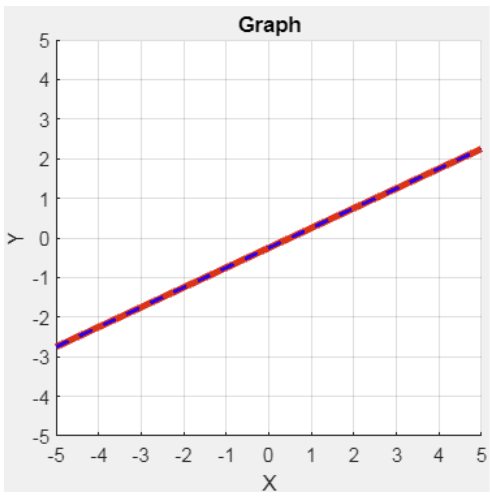
60.



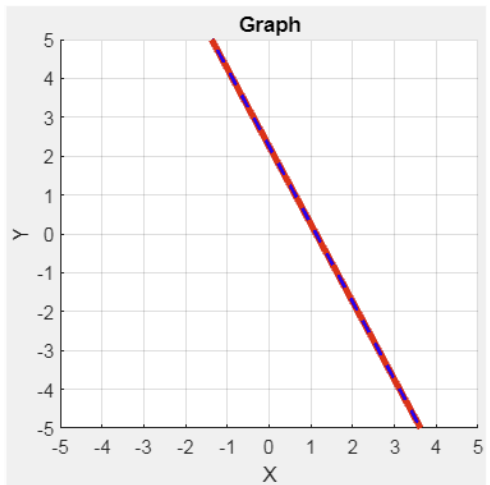
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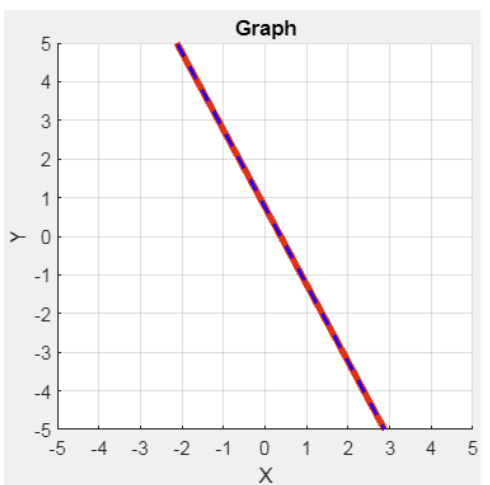
62.



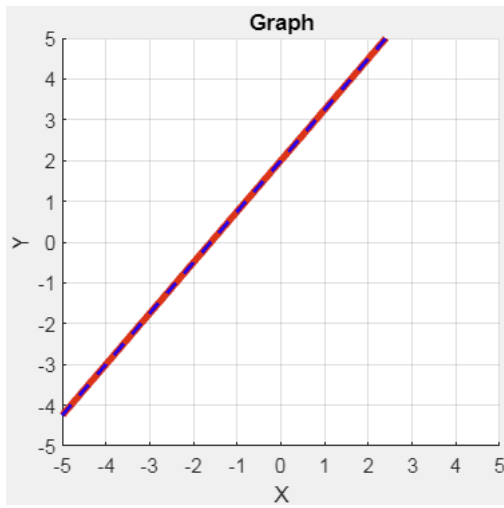
63.



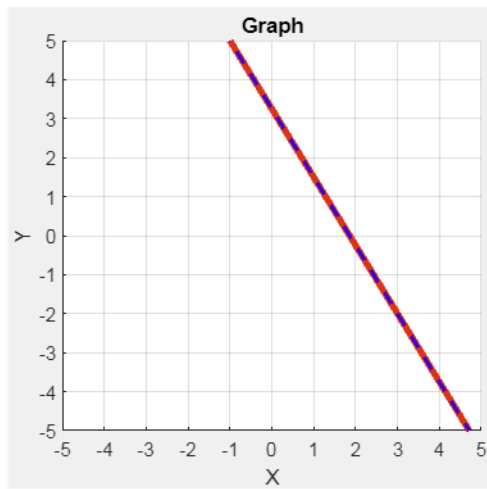
64.



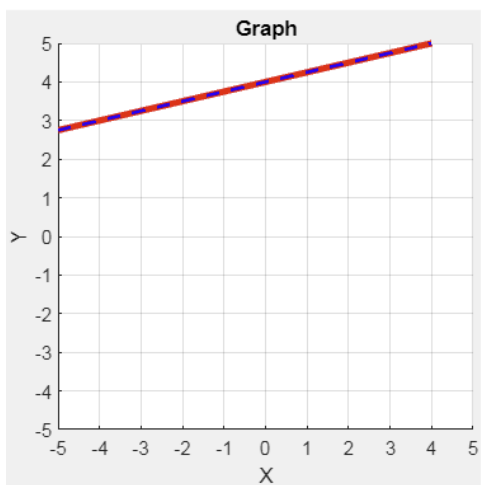
65.



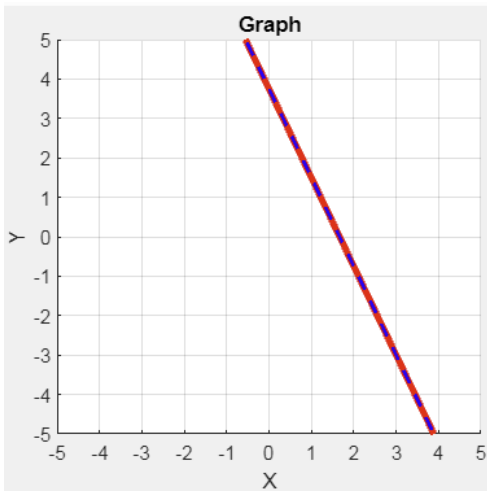
66.



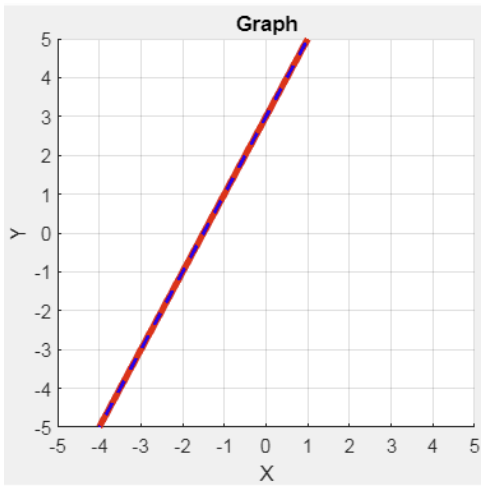
67.



68.



69.



70.

