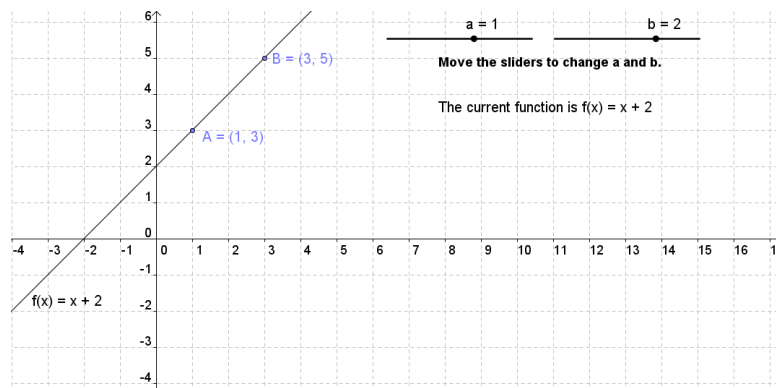


## Student Activity: To investigate functions of the form $f(x) = ax + b$

Use in connection with the interactive file, 'f(x) = ax+b', on the student's CD.



1. Use the interactive file to find where the line representing the function  $f(x) = x + 3$  cuts the y axis.  
\_\_\_\_\_
2. Use the interactive file to find where the line representing the function  $f(x) = 2x + 4$  cuts the y axis.  
\_\_\_\_\_
3. Use the interactive file to find where the line representing the function  $f(x) = 3x + 2$  cuts the y axis.  
\_\_\_\_\_
4. Use the interactive file to determine where the line representing the function  $f(x) = ax + b$  cuts the y axis. Explain your reason.  
\_\_\_\_\_
5. Set the interactive slider  $a$  at 2 and slider  $b$  at 3.
  - a. Move the point A in the interactive file to check if the point (1, 5) is on the line representing the function  $f(x) = 2x + 3$ .  
\_\_\_\_\_
  - b. Move the point B in the interactive file to check if the point (2, 7) is on the line representing the function  $f(x) = 2x + 3$ .  
\_\_\_\_\_
  - c. Find the slope of the line containing the points (1, 5) and (2, 7).  
\_\_\_\_\_  
\_\_\_\_\_

- d. Where in the format of the function  $f(x) = 2x + 3$  do you find the value for the slope that you got in the previous section?
- 

6. Set the interactive slider  $a$  at 3 and slider  $b$  at 4.

- a. Move the point A in the interactive file to check if the point (0, 4) is on the line representing the function  $f(x) = 3x + 4$ .
- 

- b. Move the point B in the interactive file to check if the point (1, 7) is on the line representing the function  $f(x) = 3x + 4$ .
- 

- c. Find the slope of the line containing the points (0, 4) and (1, 7).
- 

- d. Where in the format of the function  $f(x) = 3x + 4$  do you find the value for the slope that you got in the previous section?
- 

7. Using the interactive file what can you conclude about the slope of the line representing the function  $f(x) = ax + b$ ? Explain.

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8. Where will the line representing the function  $f(x) = 2x + 4$  cut the x axis and what will its slope be?

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9. Where will the line representing the function  $f(x) = 5x + 1$  cut the x axis and what will its slope be?

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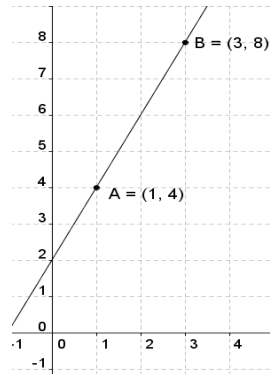
10. Where will the line representing the function  $f(x) = -\frac{1}{2}x + 4$  cut the x axis and what will its slope be?

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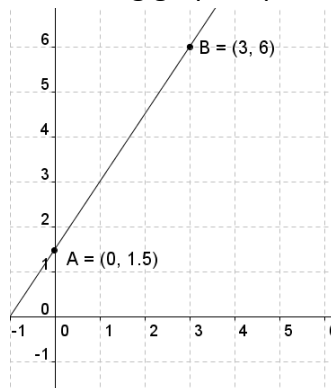
11. Where will the line representing the function  $f(x) = -3x + \frac{3}{4}$  cut the x axis and what will its slope be?

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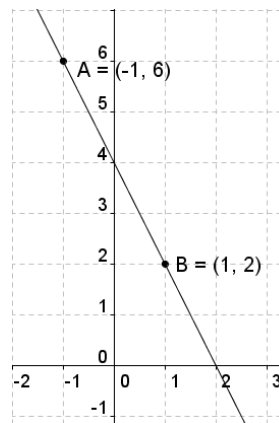
12. What function is the line in the following graph representing?



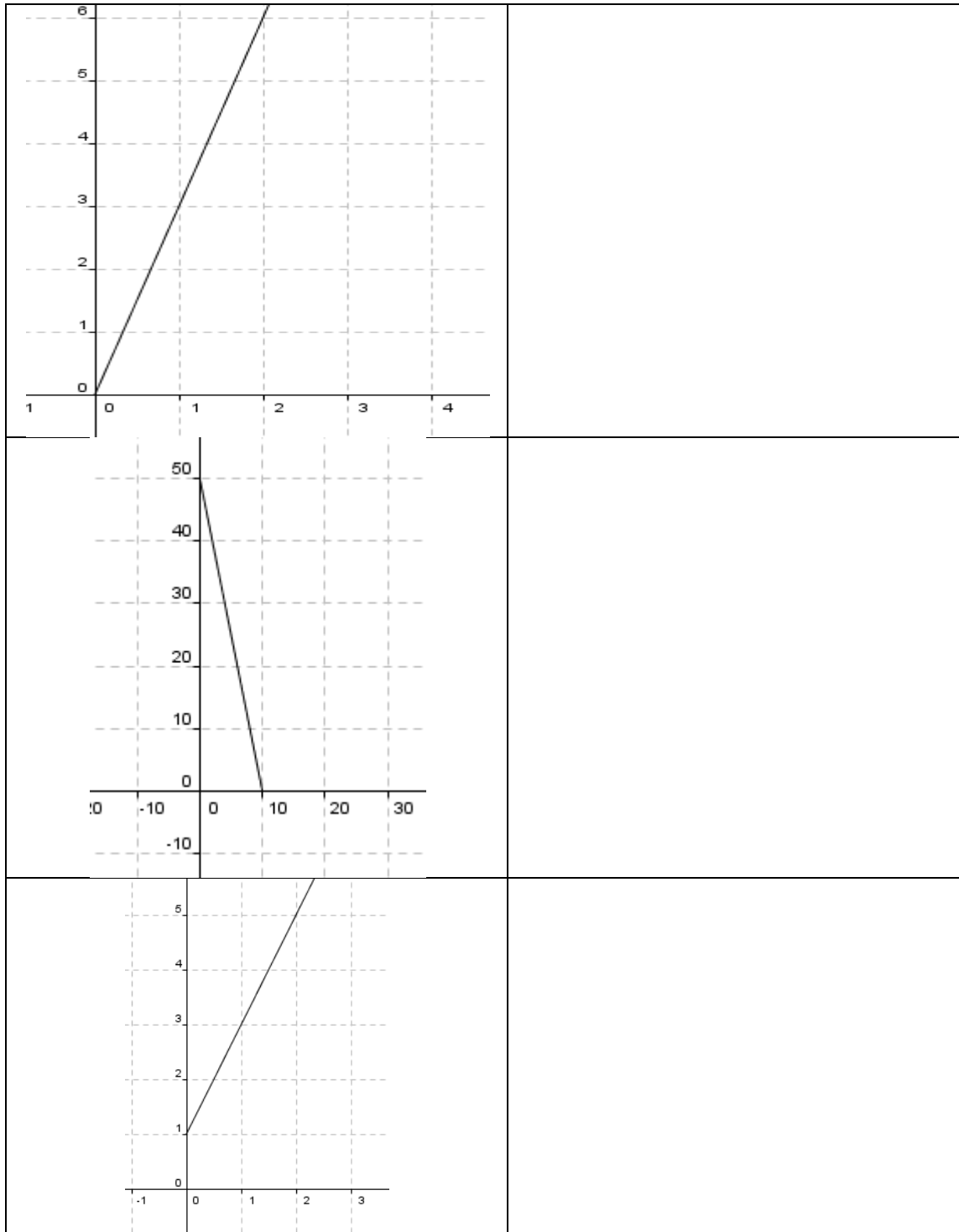
13. What function is the line in the following graph representing?

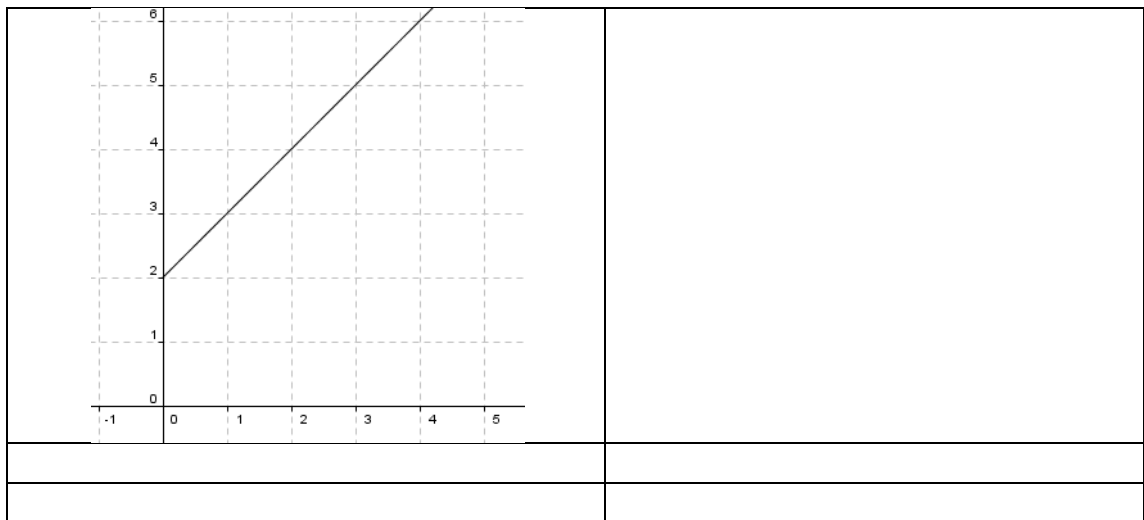


14. What function is the line in the following graph representing?

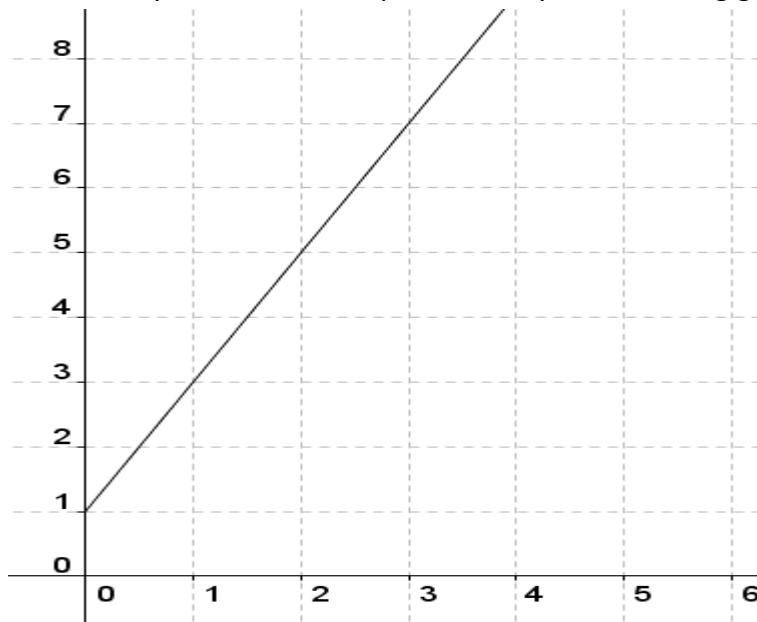


15. Match the following stories with their corresponding graphs:
- A gardener buys a tree 1 metre high and it grows 2 metres every year.
  - A car park charges €1 on entry and €2 per hour after that.
  - An amusement park charges each person €3 per hour of his/her stay.
  - A teenager has €50 and spends €5 per week.





16. Write a story that could be represented by the following graph.



17. Write a story that could be represented by the following graph.

