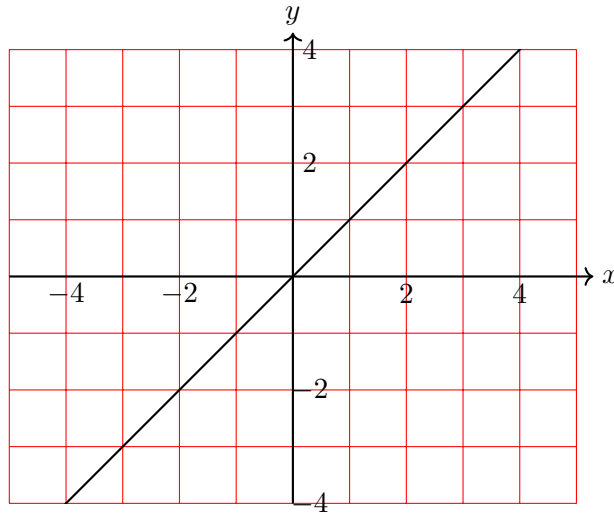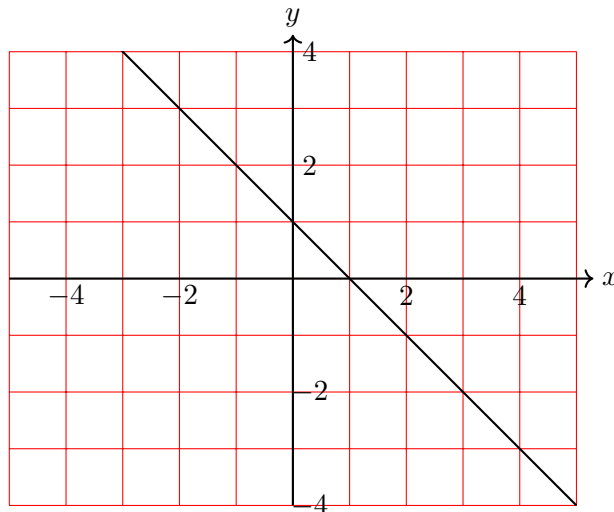# Line Equation Finding

Find the equations of the following lines. Before doing anything else, decide if the gradient is *positive* or *negative*. Then look for a pair of "integer points" such as $(1, -3)$ or $(-2, 3)$. Then work out the gradient by "rise over run" (a.k.a. change in y over change in x).
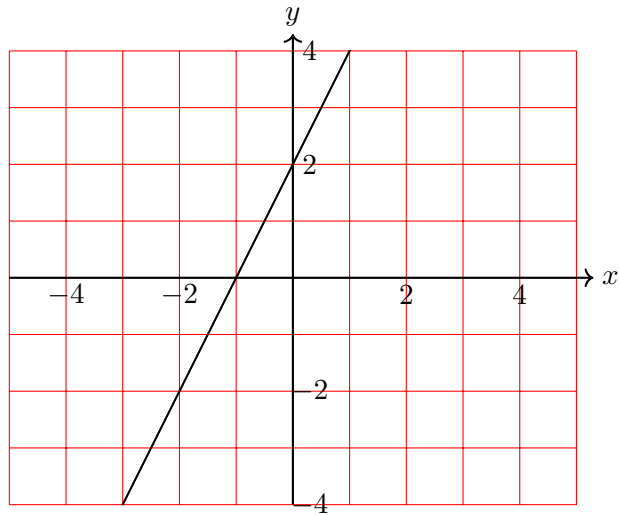
1. Find the equation in the form $y = mx + c$.

$\boxed{y = x}$

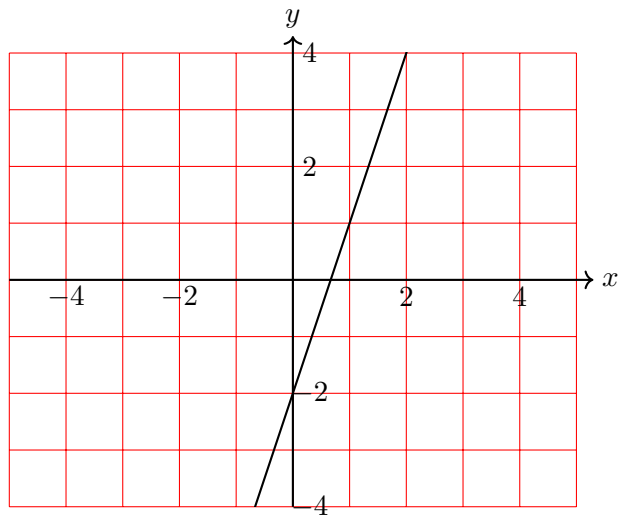2. Find the equation in the form $y = mx + c$.

$\boxed{y = -x + 1}$

3. Find the equation in the form $y = mx + c$.

4. Find the equation in the form $y = mx + c$.

5. Find the equation in the form $y = mx + c$.

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6. Find the equation in the form $y = mx + c$.

7. Find the equation in the form $y = mx + c$.

$$y = \tfrac{1}{2}x - 1$$
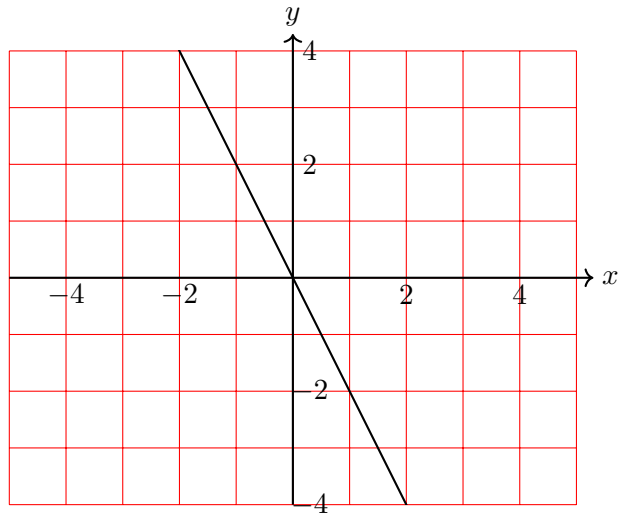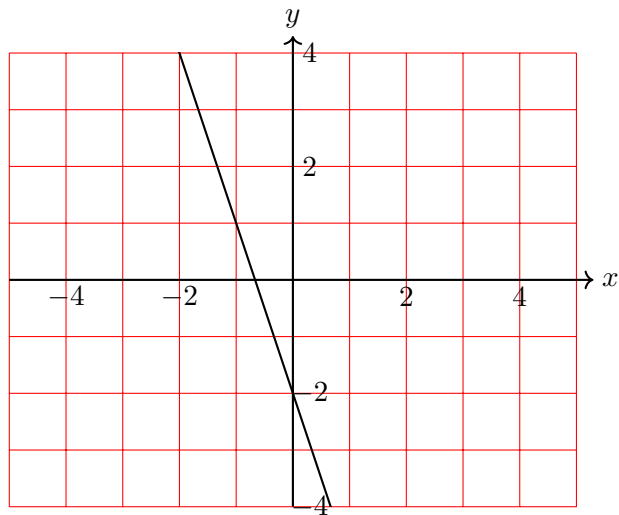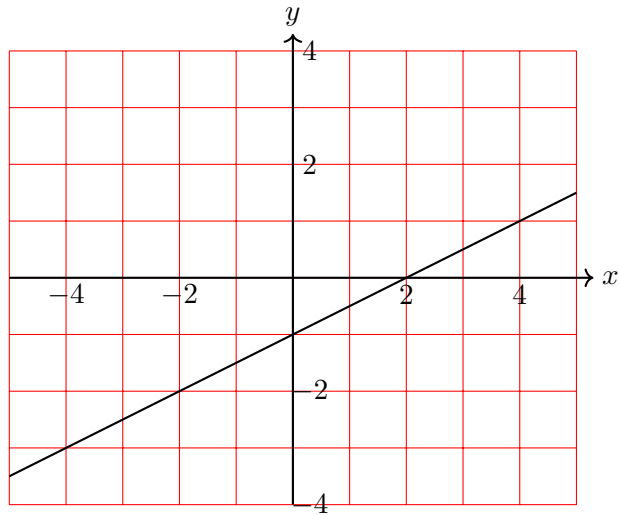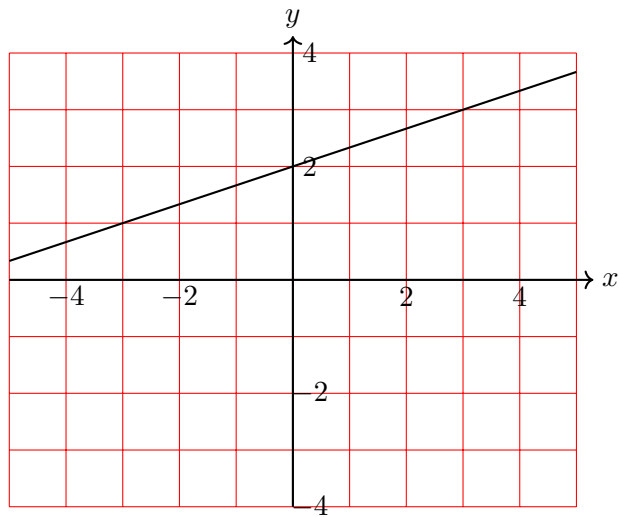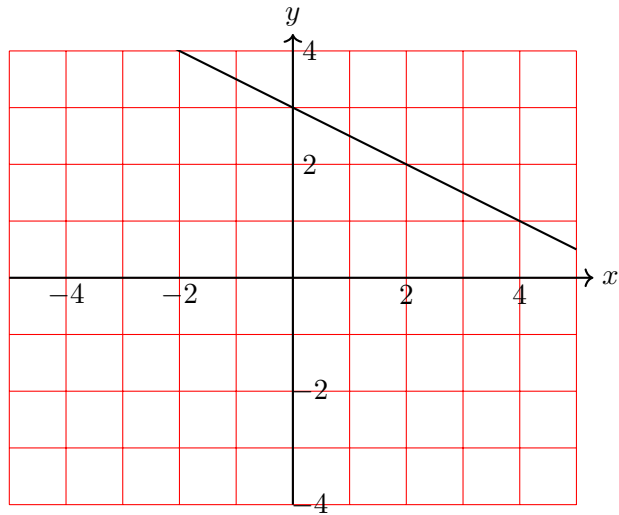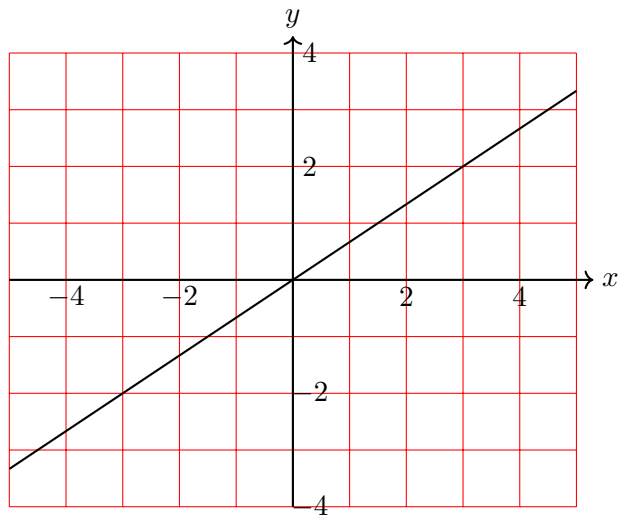
8. Find the equation in the form $y = mx + c$.

$$y = \tfrac{1}{3}x + 2$$

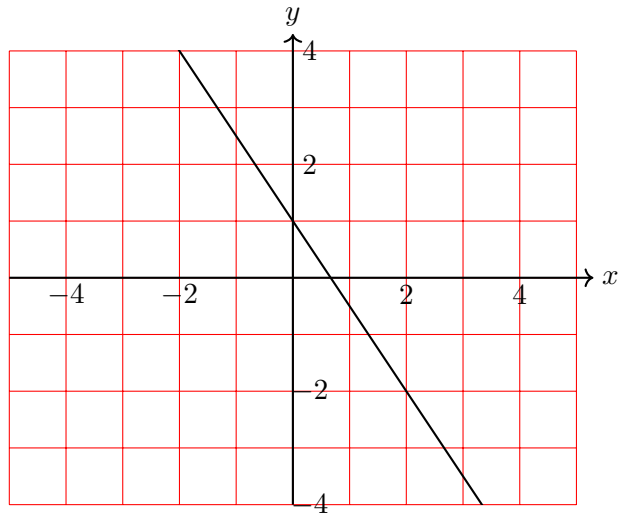9. Find the equation in the form $y = mx + c$.

$$y = -\tfrac{1}{2}x + 3$$

10. Find the equation in the form $y = mx + c$.
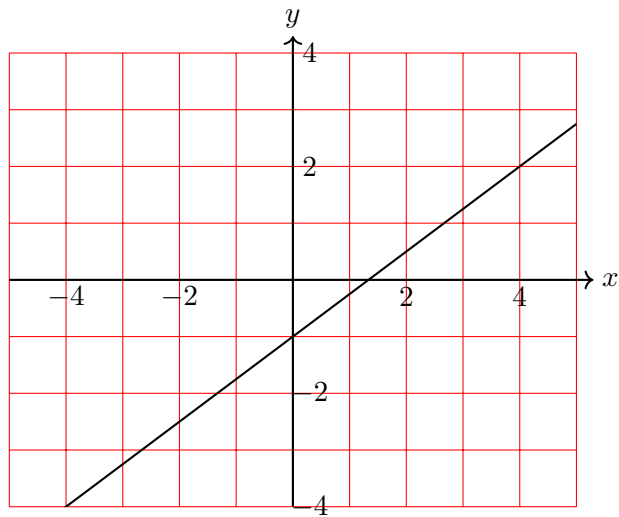

$$y = \tfrac{2}{3}x$$

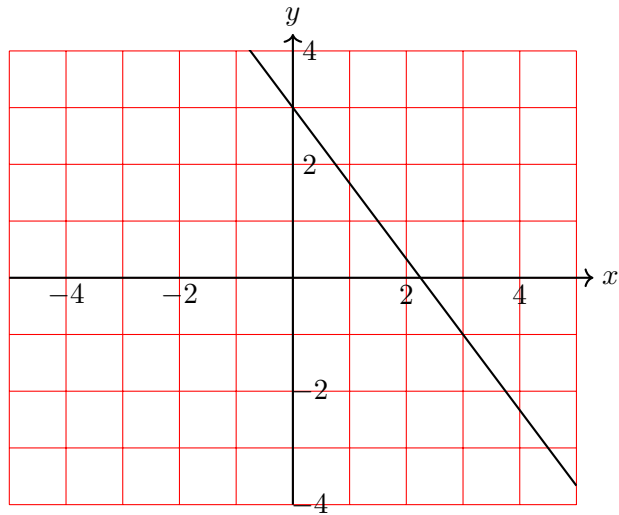11. Find the equation in the form $y = mx + c$.

$$y = -\frac{3}{2}x + 1$$

12. Find the equation in the form $y = mx + c$.
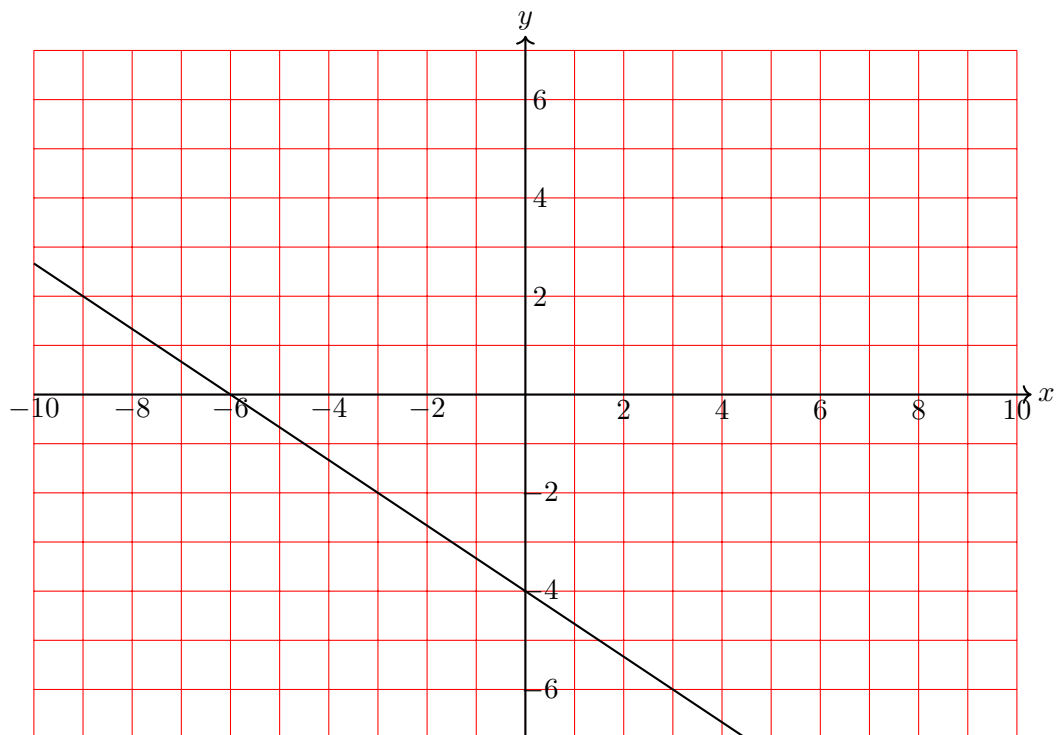

$$y = \frac{3}{4}x - 1$$

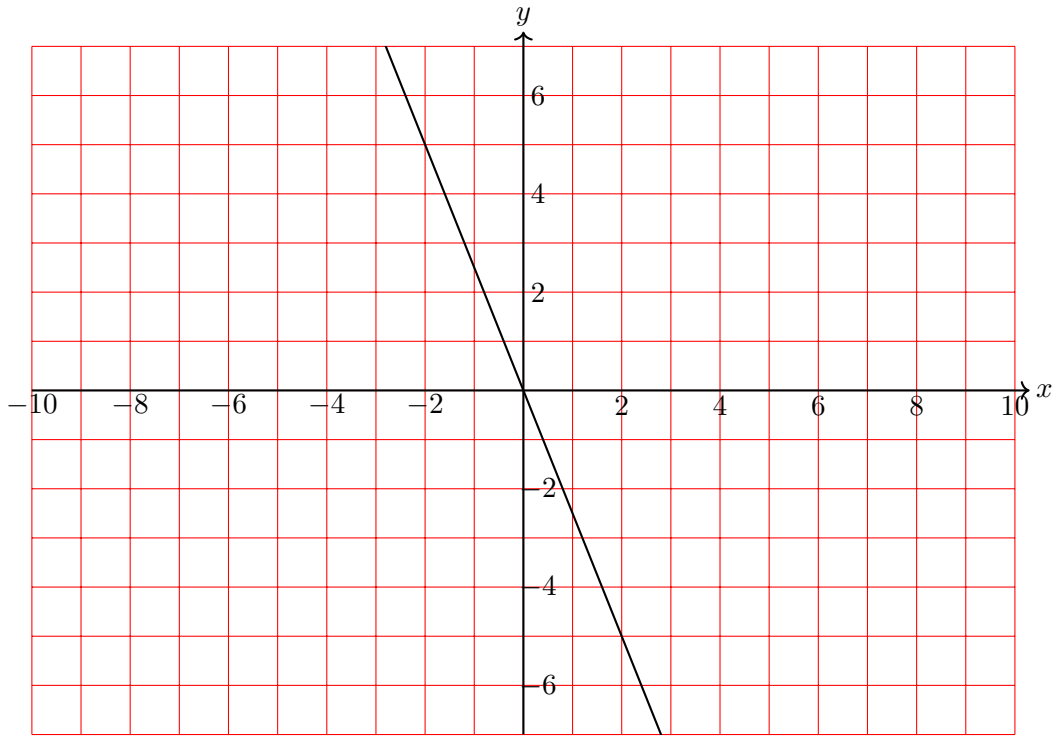13. Find the equation in the form $y = mx + c$.

$$y = -\tfrac{4}{3}x + 3$$

14. Find the equation in the form $y = mx + c$.
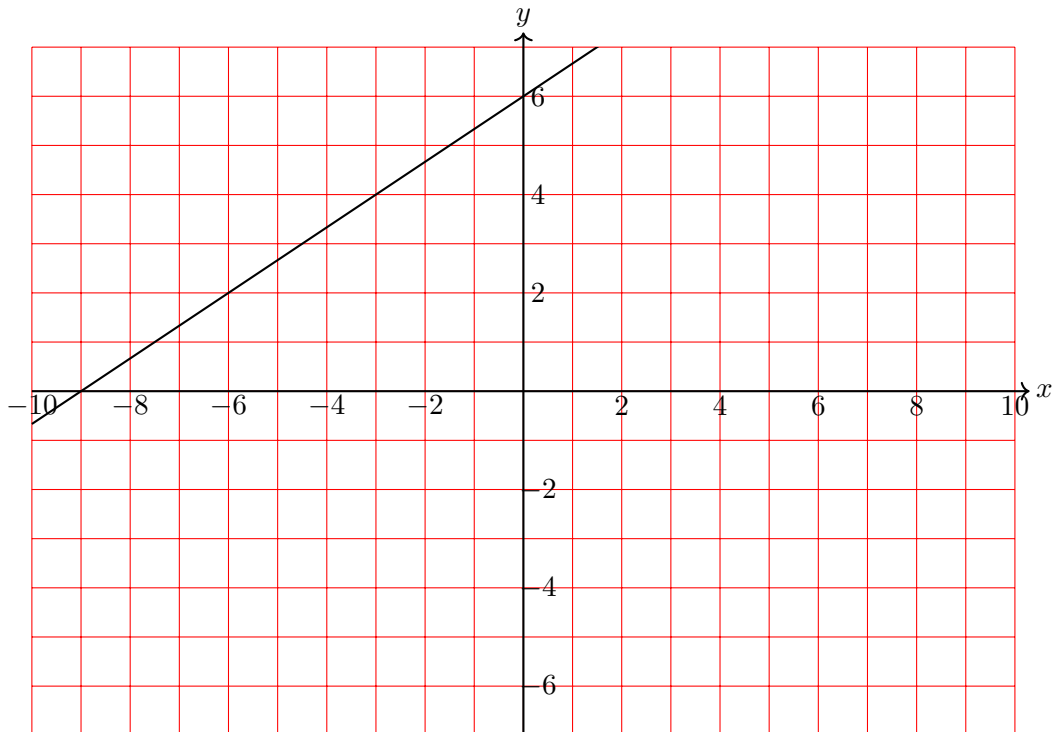

$$y = -\tfrac{2}{3}x - 4$$

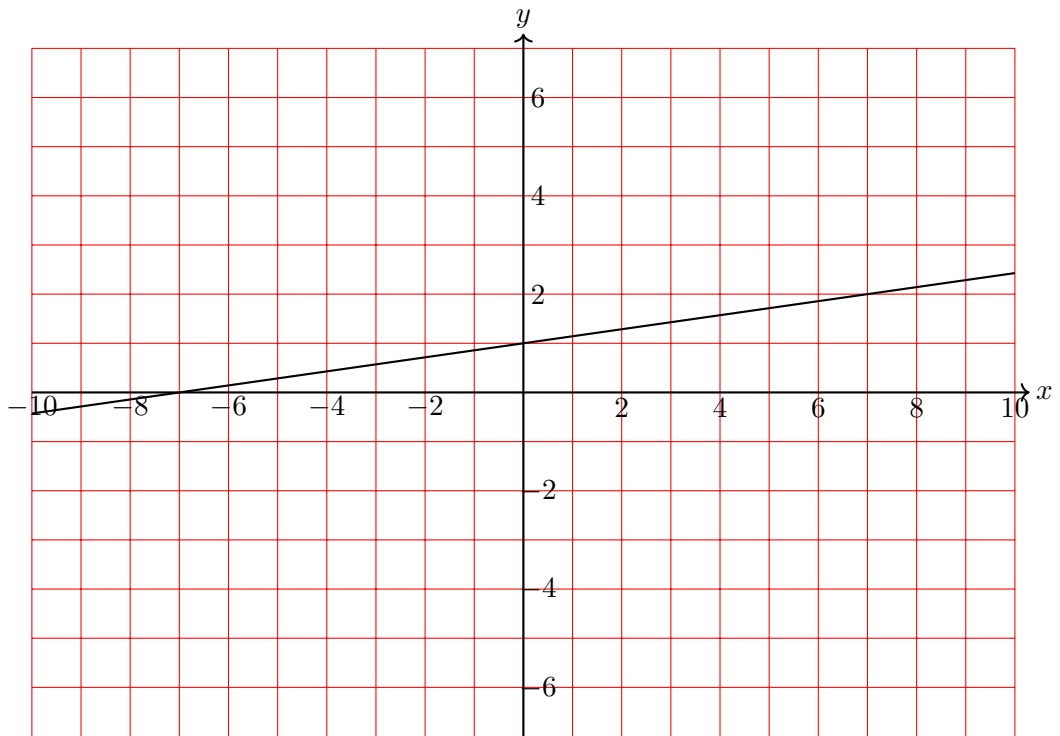15. Find the equation in the form $y = mx + c$.

$$y = -\frac{5}{2}x$$
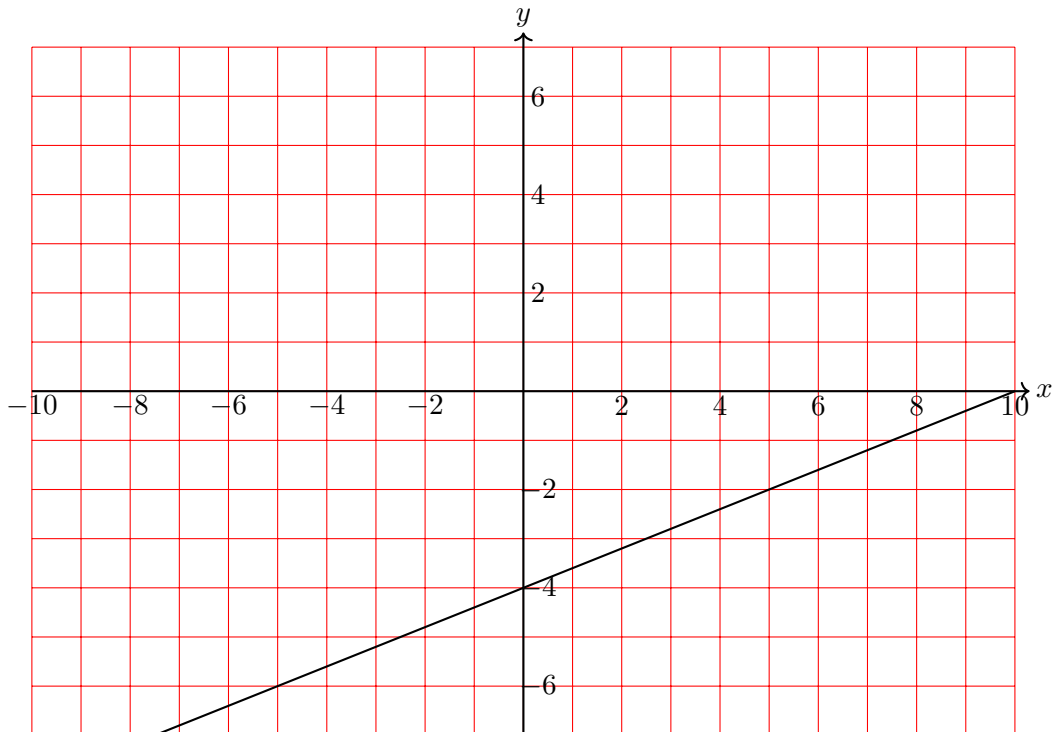
16. Find the equation in the form $y = mx + c$.

$$y = \frac{2}{3}x + 6$$

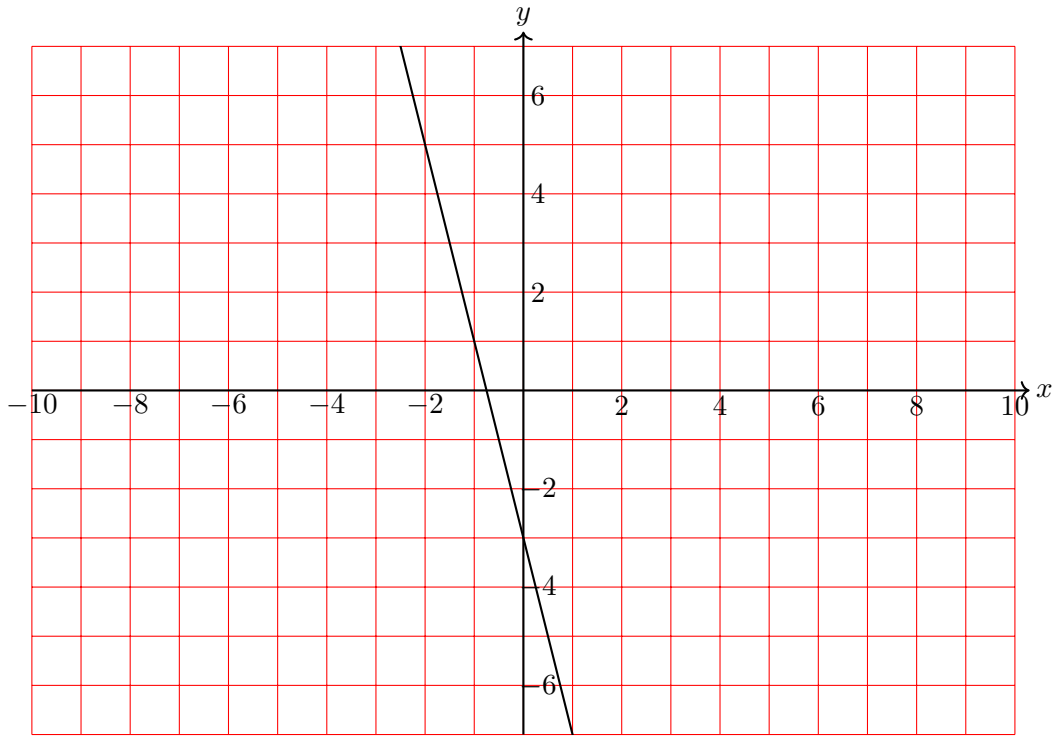17. Find the equation in the form $y = mx + c$.

$$y = \tfrac{1}{7}x + 1$$

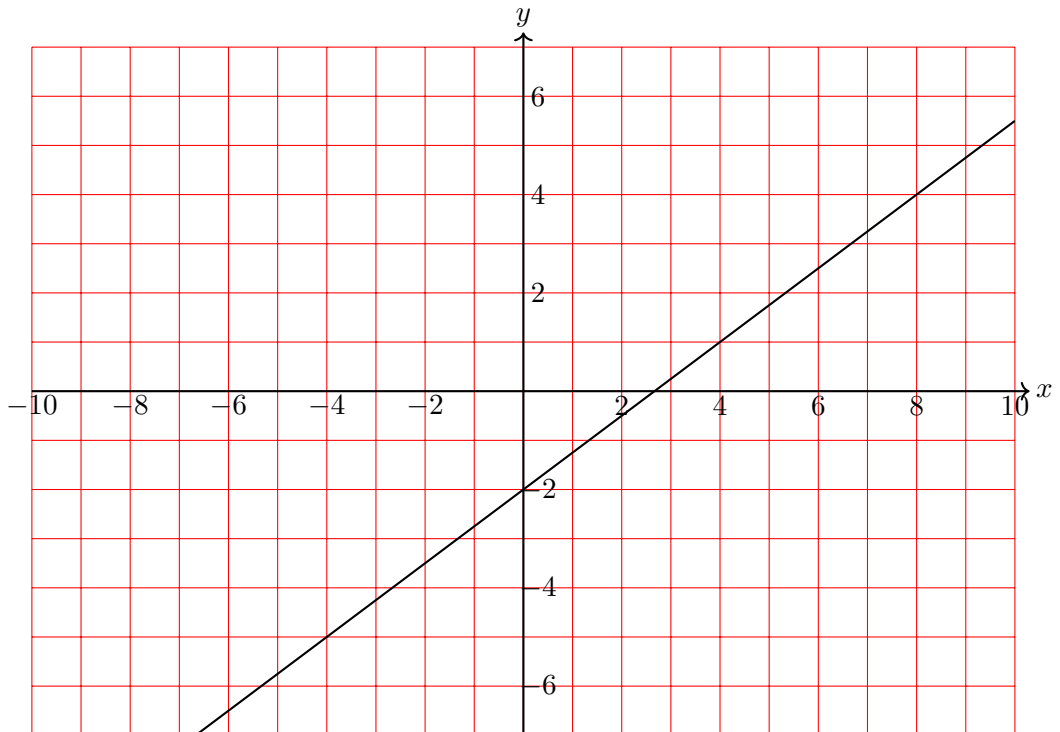18. Find the equation in the form $y = mx + c$.

$$y = \tfrac{2}{5}x - 4$$
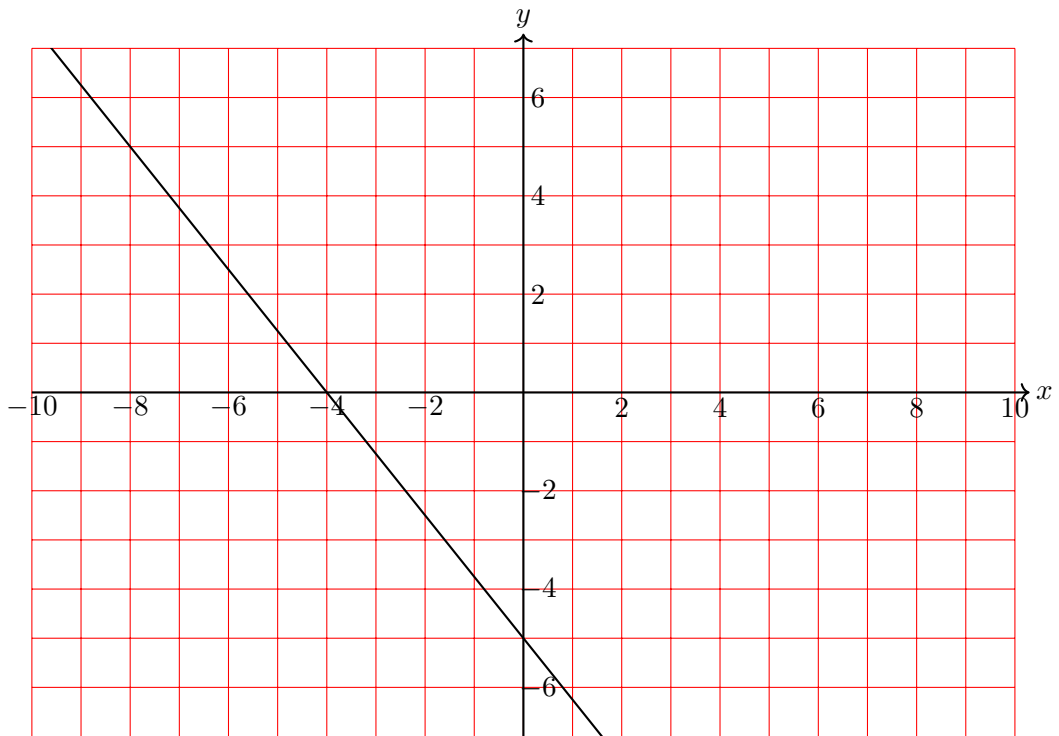
19. Find the equation in the form $y = mx + c$.

$y = -4x - 3$

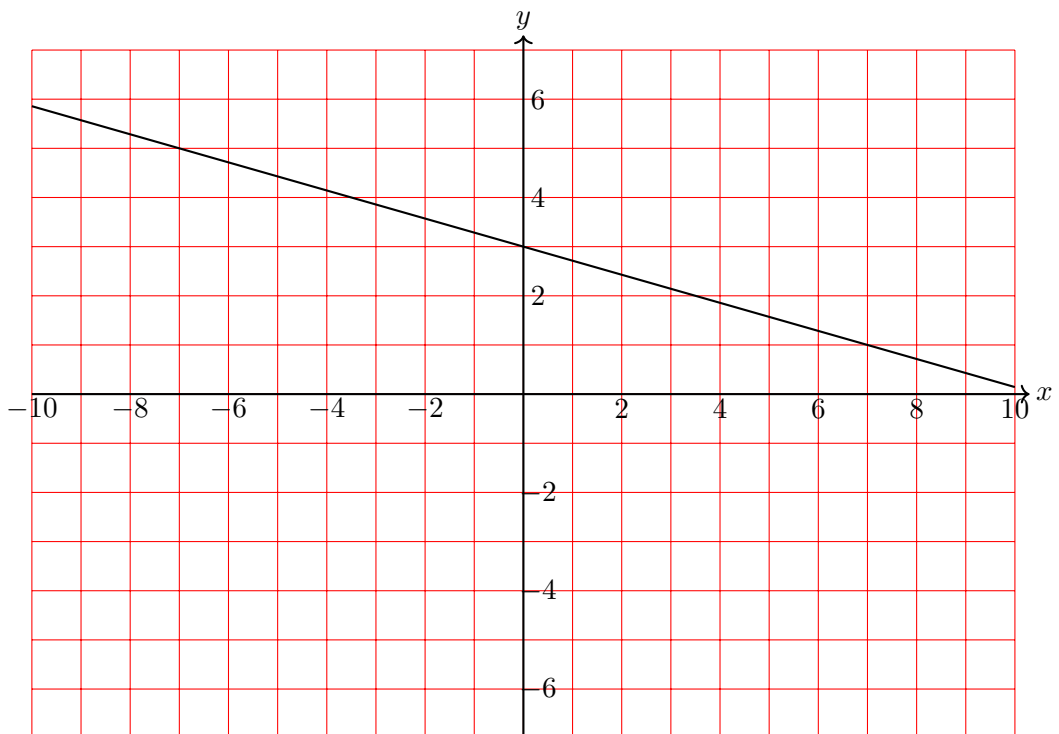20. Find the equation in the form $y = mx + c$.

$y = \frac{2}{5}x - 4$

21. Find the equation in the form $y = mx + c$.

$$y = \tfrac{3}{4}x - 2$$

22. Find the equation in the form $y = mx + c$.

$$y = -\tfrac{5}{4}x - 5$$

Now draw your own sketch and find, in the form $y = mx + c$, the line that passes through the following points.

23. $(0, -1)$ and $(1, -5)$.

$$y = -\tfrac{2}{7}x + 3$$

24. $(0, 3)$ and $(2, 4)$.

25. $(0, 4)$ and $(4, 1)$.

26. $(-3, 5)$ and $(0, 2)$.

27. $(0, -5)$ and $(7, 1)$.

28. $(-1, 3)$ and $(1, -1)$.

29. $(1, 3)$ and $(2, 5)$.

30. $(2, 3)$ and $(4, 2)$.

31. $(-2, 6)$ and $(1, -3)$.

$\boxed{y = -4x - 1}$

$\boxed{y = \frac{1}{2}x + 3}$

$\boxed{y = -\frac{3}{4}x + 4}$

$\boxed{y = -x + 2}$

$\boxed{y = \frac{6}{7}x - 5}$

$\boxed{y = 2x + 1}$

$\boxed{y = -\frac{1}{2}x + 4}$

$\boxed{y = -3x}$