

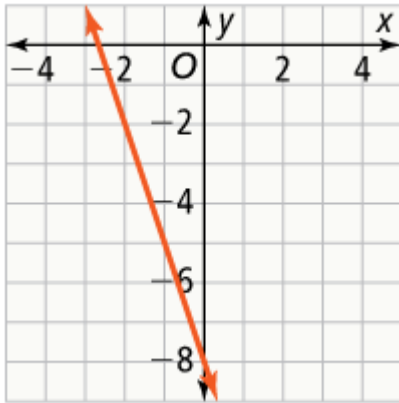
11. a. $y - 4 = -\frac{3}{10}(x + 5)$ or $y - 1 = -\frac{3}{10}(x - 5)$
- b. Answers may vary. Sample: $\frac{5}{2}$
- c. Answers may vary. Sample: It looks like the y -intercept is halfway between the given points, so it should be about halfway between the two y -coordinates, 1 and 4, or at about $2\frac{1}{2}$.
- d. $y = -\frac{3}{10}x + \frac{5}{2}$
12. The x - and y -coordinates are reversed. The point in Step 1 should be plotted at $(8, -5)$, not $(-5, 8)$. Step 2 should plot a point 3 units down and 4 units right from the point $(8, -5)$.
13. a. $y - b = m(x - 0)$
- b. The simplified form of $y - b = m(x - 0)$ is $y = mx + b$ if you solve for y , so slope-intercept and point-slope forms are two ways of representing the same line.
14. $y - 1 = 2(x - 3)$
15. $y + 2 = -4(x - 2)$
16. $y + 8 = -\frac{3}{4}(x - 2)$
17. $y - 4 = \frac{2}{3}(x + 1)$
18. $y - 2 = -\left(x + \frac{1}{2}\right)$
19. $y - 7.5 = 1.5(x - 3.5)$
20. $y - 4 = -2(x - 2)$
21. $y + 3 = -\frac{2}{3}(x - 1)$
22. $y - 4 = 2(x - 6)$ or $y - 3 = 2(x - 3)$
23. $y + 7 = (x + 1)$ or $y + 4 = (x - 2)$
24. $y + 5 = \frac{3}{2}(x - 3)$ or $y + 8 = \frac{3}{2}(x - 1)$

25. $y - 12 = 5(x + 4)$ or $y + 3 = 5(x + 7)$

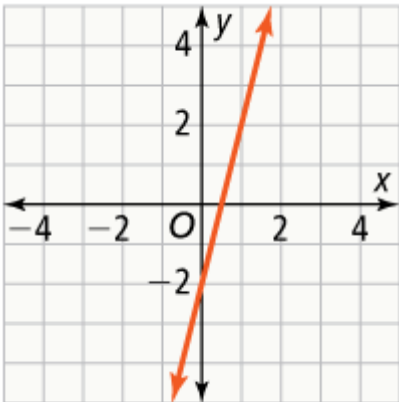
26. $y + 2 = \frac{8}{5}(x + 4)$ or $y - 6 = \frac{8}{5}(x - 1)$

27. $y + \frac{1}{2} = -(x - 3)$ or $y - \frac{3}{2} = -(x - 1)$

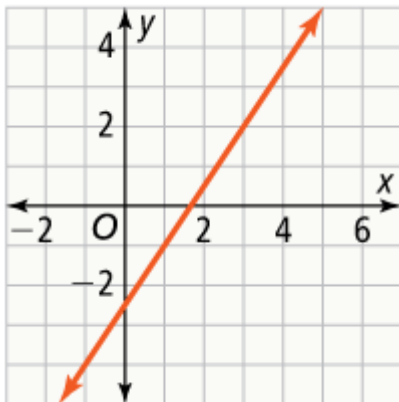
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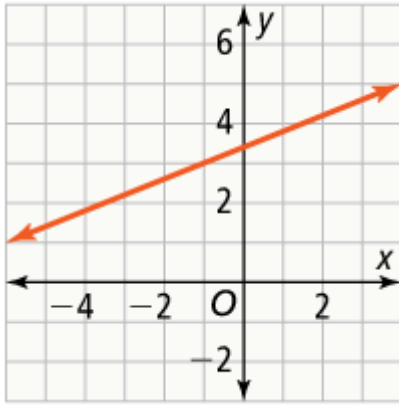
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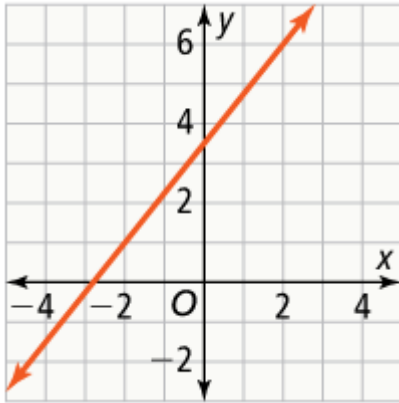
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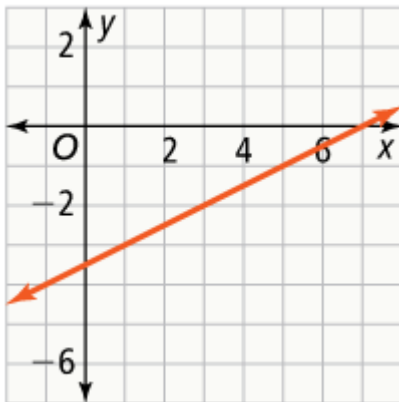
31.



32.



33.



34. $y - 100 = 3(x - 15)$; $y = 3x + 55$

35. $y + 21 = \frac{3}{2}(x + 4)$; $y = \frac{3}{2}x - 15$

36. $y - 93.75 = 12.50(x - 5.5)$; Liam can write the equation in slope-intercept form:

$y = 12.50x + 25$. The y -intercept models the service fee of \$25.

37. a. \$608
- b. \$76
- c. Both forms are useful for finding the amount she pays each week, which is the slope. Only slope-intercept form gives the original amount borrowed as the y -intercept.
38. Answers may vary. Sample: $y - 100 = 1.6(x - 25)$; $y = 1.6x + 60$; The slope represents the cost per invitation, which is \$1.60. The y -intercept represents the set-up fee of \$60, so slope-intercept form is better for giving information about the set-up fee because it gives this value directly.
39. $\frac{9}{7}$; $(-4, 5)$; Answers may vary. Sample: $(3, 14)$
40. A
41. **Part A** $y - 9 = 0.4(x - 14.5)$; The slope is the rate of the railway: 0.4 m/sec.
- Part B** 3.2 m; slope-intercept form: $y = 0.4x + 3.2$; The y -intercept of the linear model represents the train's initial elevation.