

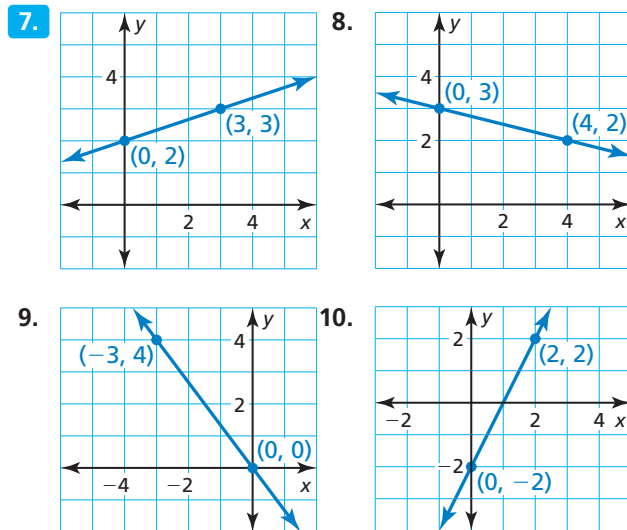
4.1 Practice WITH CalcChat® AND CalcView®



In Exercises 1–6, write an equation of the line with the given slope and y-intercept. ▶ *Example 1*

- | | |
|--|---|
| 1. slope: 2
y-intercept: 9 | 2. slope: 0
y-intercept: 5 |
| 3. slope: -3
y-intercept: 0 | 4. slope: -7.5
y-intercept: 1.5 |
| 5. slope: $\frac{2}{3}$
y-intercept: -8 | 6. slope: $-\frac{3}{4}$
y-intercept: $-\frac{1}{4}$ |

In Exercises 7–10, write an equation of the line in slope-intercept form. ▶ *Example 2*



In Exercises 11–16, write an equation of the line that passes through the given points. ▶ *Example 3*

- | | |
|-------------------------|---|
| 11. (3, 1), (0, 10) | 12. (2, 7), (0, -5) |
| 13. (2, -4), (0, -4) | 14. (-6, 0), (0, -24) |
| 15. (0, 5.2), (-1.5, 1) | 16. $(0, \frac{1}{3}), (-5, \frac{7}{3})$ |

In Exercises 17–22, write a linear function f with the given values. ▶ *Example 4*

- | | |
|--------------------------------------|--------------------------|
| 17. $f(0) = 2, f(2) = 4$ | 18. $f(0) = 7, f(3) = 1$ |
| 19. $f(4) = -3, f(0) = -2$ | |
| 20. $f(5) = -1, f(0) = -5$ | |
| 21. $f(-\frac{1}{2}) = 1, f(0) = -4$ | |
| 22. $f(0) = 3.75, f(-6) = 3.75$ | |

In Exercises 23 and 24, write a linear function f with the given values.

23.

x 1 0 -1	$f(x)$ -1 1 3
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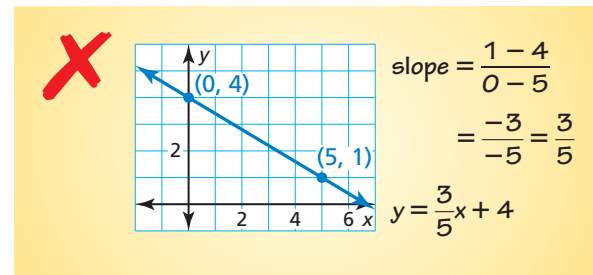
24.

x	$f(x)$
-4	-2
-2	-1
0	0

25. **ERROR ANALYSIS** Describe and correct the error in writing an equation of the line with a slope of 2 and a y-intercept of 7.

✗ $y = 7x + 2$

26. **ERROR ANALYSIS** Describe and correct the error in writing an equation of the line shown.



27. **MODELING REAL LIFE** A public university charged \$9200 for tuition and fees in the 2014–2015 academic year. This cost increased at a constant rate and reached \$10,900 in the 2019–2020 academic year. Estimate the cost of tuition and fees in the 2023–2024 academic year. ▶ *Example 5*

28. **MODELING REAL LIFE** A recording studio charges musicians an initial fee of \$50 to record an album. Studio time costs an additional \$75 per hour. Is it less expensive to purchase 12 hours of recording time at the studio or a \$795 music software program that you can use to record on your own computer? Use a linear model to justify your answer.

