

CHAPTER 2 PRACTICE TEST

Linear Functions

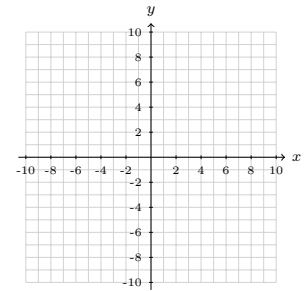
Name _____

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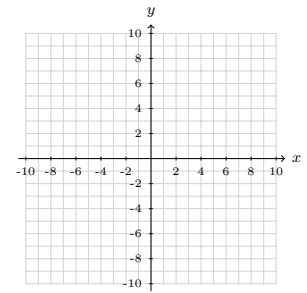
Show your work. Explain when asked. Use the supplied grids; use graph paper for extra work.

PART I–II Rewrite, Graph, and Compare Slopes

1. Solve $2x + 3y = 9$ for y , then graph the equation. (4 pts)



2. Solve $5y - 2x = -10$ for y , then graph the equation. (4 pts)



3. Find the slope through $(4, 7)$ and $(2, 1)$. (2 pts)

4. Find the slope through $(-3, -2)$ and $(3, 1)$. (2 pts)

5. Which hill is steeper: a rise of 3 feet per 12 horizontal feet, or 3 feet per 18 horizontal feet? Explain. (3 pts)

6. Line A passes through $(-4, -6)$ and $(-2, 0)$. Line B passes through $(-1, -4)$ and $(1, 2)$. Line C passes through $(0, 4)$ and $(4, 0)$. Which are parallel? Explain. (4 pts)

PART III Slope and Intercepts

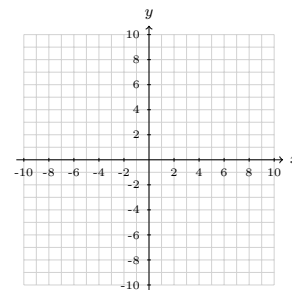
7. State the slope and y -intercept of $y = -3x + 2$. (2 pts)

8. State the slope and y -intercept of $y - \frac{2}{5}x = 0$. Also state the slope of $x = 6$. (3 pts)

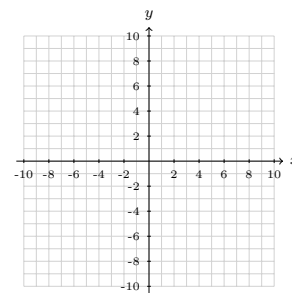
9. State the slope and y -intercept of $y + 3 = \frac{4}{5}x$. (2 pts)

10. Explain how to find the x -intercept of $y = 5x - 3$, then give it. (3 pts)

11. Find both intercepts and graph $2x - 3y = 12$. (4 pts)



12. Find both intercepts and graph $3x - y = -6$. (4 pts)



PART IV Write Equations and Model

- 13.** You borrow \$120 and repay \$20 each week. Write a standard-form model for amount owed y after x weeks. Find and interpret both intercepts. (5 pts)

- 14.** Write the slope-intercept equation through $(-4, -3)$ and $(0, 0)$. (3 pts)

- 15.** Write the equation through $(0, -2)$ and $(3, -2)$. (2 pts)

- 16.** Write point-slope form through $(-3, -5)$ and $(-1, 1)$. Convert to slope-intercept form. (4 pts)

- 17.** Write the equation through $(8, -4)$ and $(5, 2)$. State the slope of a perpendicular line. (4 pts)

- 18.** Temperature is 68°F at 0 thousand feet and 44°F at 6 thousand feet. Find and interpret the slope, write the equation, interpret its x -intercept, and predict the temperature at 10,000 feet using this model. (5 pts)
