

Section 5.3 – Finding the Equation of a Line – The Slope-Intercept Form

Problem Set 1

Find the equation of the line that meets the following conditions.

1. has a slope of 5 and a y -intercept of 3
2. has a slope of $\frac{2}{3}$ and a y -intercept of 5
3. has a slope of -2 and a y -intercept of -2
4. has a slope of -1 and a y -intercept of -2.1
5. has a slope of 4.1 and a y -intercept of 6
6. has a slope of 2 and a y -intercept of -4
7. passes through the points (2, 3) and (1, 1)
8. passes through the points (2, 4) and (1, 3)
9. passes through the points (0, 0) and (-4, 4)
10. passes through the points (-2, 1) and $\left(\frac{4}{3}, \frac{1}{3}\right)$
11. passes through the points (-2, 3) and (3, -1)
12. passes through the points (2.2, -1.8) and (-3.2, 1)

Applications

13. **Inflation** In 1950, a loaf of bread cost \$.14. In 1984, the same loaf cost \$.71. Find an equation that describes the change in price.
14. **Inflation** Using your equation from the previous question, estimate the cost of a loaf of bread in 1990.
15. **Production Cost** The monthly operating cost of a microchip factory is \$10,250. If each chip costs \$1.26 to make, find an equation that describes the monthly operating cost in terms of the number of chips produced.
16. **Production Cost** Using your equation from question 15, determine the number of chips that can be produced for an investment of \$13,000.
17. **Cost of Gold** In January, 2007, the cost of gold was approximately \$600 per troy ounce. In January, 2010, the cost was approximately \$1150 per troy ounce. Find an equation that describes gold's price over time.