

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

### Problem Set 3

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

1. has a slope of 4 and a  $y$ -intercept of 7
2. has a slope of  $1/3$  and a  $y$ -intercept of  $5/2$
3. has a slope of  $-2/9$  and a  $y$ -intercept of 3
4. has a slope of  $-9$  and a  $y$ -intercept of  $-17$
5. has a slope of 4.2 and a  $y$ -intercept of  $-2.1$
6. has a slope of  $-1$  and a  $y$ -intercept of  $-5$
7. passes through the points  $(2, 3)$  and  $(-1, 2)$
8. passes through the points  $(4.1, -2.5)$  and  $(-0.2, 3)$
9. passes through the points  $(4, -2)$  and  $(-3, 7)$
10. passes through the points  $(-2, 3)$  and  $(3, -1)$
11. passes through the points  $(-4, 1)$  and  $\left(-\frac{3}{4}, -\frac{6}{5}\right)$
12. passes through the points  $(-5, 3)$  and  $(2, 6)$

### Applications

13. **Inflation Rates** In January of 1999, the inflation rate was 1.67%. In January of 2003, it was 2.60%. Find a linear equation that describes the relationship between those values.
14. **Inflation Rates** According to your model in question 13, find the inflation rate in January of 2008.
15. **Production Costs** The cost of producing a bushel of wheat is \$1.56. If the fixed costs of the farm are \$5,000, find an equation that models the relationship between production costs and the number of bushels produced.
16. **Production Costs** How many bushels of wheat would equate to a production cost of \$8,000?