Writing Slope–Intercept Equations
Homework

Name __Key__

Date _____ Period _____

Given one of the representations below, find the other two.

Table	Graph	Equation
1. 	x | y -4 | 3 -4 | 0 -4 | -3		★ Vertical m: undefined x = - 4 b: DNE
2. y-int	x | y -4 | 0 (0 | -2) 4 | -4		m: $\frac{-2}{4} = -\frac{1}{2}$ b: -2 $y = -\frac{1}{2}X - 2$
3. y-int	x | y -2 | 1 (0 | 2) 2 | 3		table m: $\frac{\Delta y}{\Delta x}$ $\frac{1}{2}$ b: 2 $y = \frac{1}{2}X + 2$

rate

| DV | IV |

4. Amy opened her bank account with $100. She adds $30 each month. X: months
y: $

    a. Identify the slope and y-intercept.

      m: 30   y-int: (0, 100)

    b. Write the equation of the line.

      $y = 30x + 100$

mos

4 × 12 = 48 months

    c. How much will Amy have in her account after 4 years (with no interest)?

f x = 48

      $y = 30(48) + 100$ y = 1540 $1540

S y = 730

    d. When will Amy have $730 in her account?

S

      $730 = 30x + 100$ $\frac{630}{30} = \frac{30x}{30}$ 21 months

      $-100 \quad -100$ $21 = x$

      $630 = 30x$

5. David started a new diet when he weighed 270 pounds. He lost an average of 3 pounds each week.

    X: weeks
    y: pounds

    a. Identify the slope and y-intercept.

      m: -3   y-int (0, 270)

    b. Write the equation of the line.

      $y = -3x + 270$ or $y = 270 - 3x$

    c. How long did it take him to reach 180 pounds?

      $180 = -3x + 270$ x = 30   30 weeks

      $-270 \quad -270$

      $\frac{-90}{-3} = \frac{-3x}{-3}$

Create a situation for the given slope and y-intercept.

6. slope = 10; (0, 25)

membership fee of $25 then $10 per month

7. slope = -5; (0, 500)

start with $500 in savings then spend $5 a week on coffee

8. slope = 4; (0, 0)

Babysitting your little sister your parents will give you $4 an hour

Write an equation for the line with the given slope and y-intercept.

9. slope = 1; (0, 10)   10. slope = 0; (0, -3) horizontal   11. slope = $\frac{2}{5}$; (0, $\frac{-3}{5}$)

b

$y = x + 10$ $y = -3$ $y = \frac{2}{5}x + \frac{-3}{5}$

12. m = 20; b = 100   13. m = -3; b = 0   14. m = -1; b = -7

$y = 20x + 100$ $y = -3x$ $y = -x - 7$