1. The table shows the number of miles Kata traveled for work each year.

Year	2006	2007	2008	2009	2010	2011
Miles Traveled	8300	7550	8005	7600	6935	6405

x_1	y_1
6	8300
7	7550
8	8005
9	7600
10	6935
11	6405

$$y_1 \sim mx_1 + b$$

STATISTICS   RESIDUALS
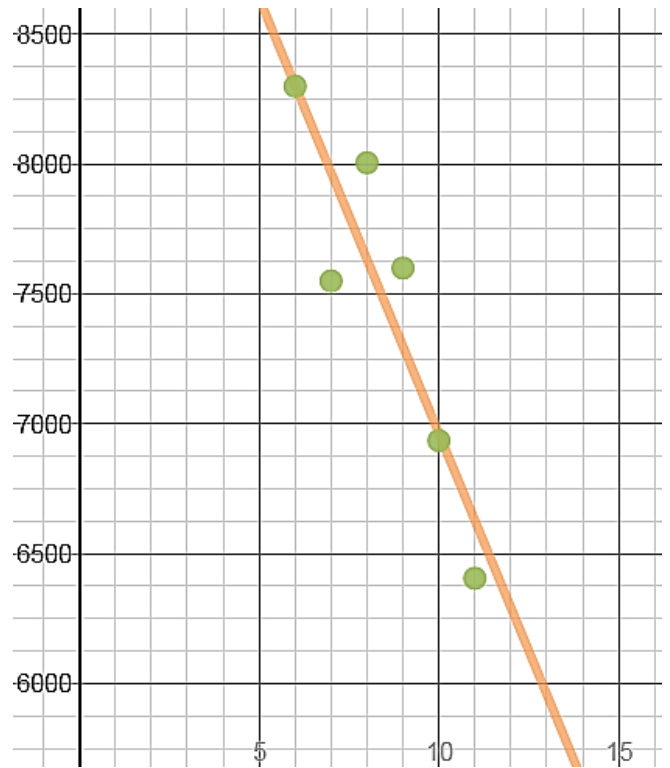
$r^2 = 0.812$ e_1 plot

$r = -0.901$

PARAMETERS

$m = -335$ $b = 10313$

a. Determine a linear regression equation
     for the data. Round the slope and
     y-intercept to the nearest whole number.

b. Identify the correlation coefficient, or r-value, of the line. What does this value tell you?

c. Predict the number of miles Kata will travel in 2014. Show your work.

d. Approximately what year will Kata travel about 5000 miles? Show your
     work.

2. Darla has $75 to spend at the bookstore. Books cost $16 and magazines cost$8.

    a. Define your variables and write an equation to represent this problem situation.

    b. If Darla buys 3 books, what is the greatest number of magazines she can buy? Show your work.

    c. If Darla buys 5 magazines, what's the greatest number of books she can buy? Show your work.

Find the x and y-intercepts of each.
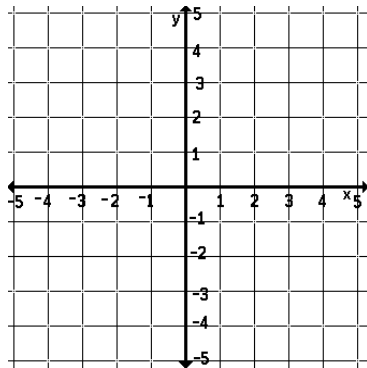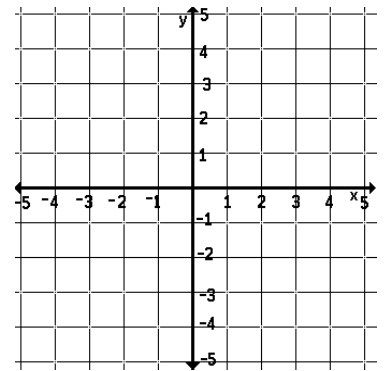
3. $5x + 10y = 25$ 4. $x - y = 1.5$ 5. $y = 4x + 8$

Find the x- and y-intercepts for each equation and graph.

6. $x + 2y = -5$

7. $5x - 3y = 15$

Convert between degrees Fahrenheit and degrees Celsius using the literal equation given. If necessary, round to the nearest hundredth. $C = \dfrac{5}{9}(F - 32)$

8. 44°F

9. 56°C

10. -15°F

11. -12°C

Convert each equation from standard form to slope-intercept form. $y = mx + b$

12. 2x – 6y = 12

13. -4x – 5y = 25

Convert each equation from slope-intercept to standard form. $Ax + By = C$

14. y = 4x + 12

15. $y = -\dfrac{2}{3}x + 4$

Solve each literal equation for the indicated variable.

16. $V = lwh$ Solve for l.

17. $A = \dfrac{1}{2}bh$ Solve for b.

18. $C = 2\pi r$ Solve for r.

19. $D = rt$ Solve for t.

20. $V = \dfrac{1}{3}\pi r^2 h$ Solve for r.

21. $A = \dfrac{1}{2}h(b_1 + b_2)$ Solve for h.