1. Complete the table and graph for the rule y = x² - 4x – 12.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 |
| y |  |  |  |  |  |  |  |  |



1. Find the slope of the line that pass through the points  (100, 76) and

(106, 58).

1. Find the point of intersection for the system of linear equations.

*a. y* = 3*x* + 7  
*y* = −4*x* + 21

c.3*x* − *y* = 17  
−*x* + *y* = −7

*c. x* = 3*y* − 5  
2*x* + 12*y* = −4

1. Factor each quadratic expression.
   1. 2x² +x + 3
   2. 3x² + 2x - 5

c. 3*x*2 + 21*x* + 30 d. 7*x*2− 63

**6.** Rewrite each product below as a sum.

* 1. (*x* + 3)(2*x* − 5)
  2. (3*x* − 6)(*x* − 4)

**7.** A ball is dropped from a height of 3000 cm and rebounds to a height of 2535 cm. Complete the following:

a. Find the rebound ratio of the ball.

b. Find the rebound height after the third bounce.

c. Find an equation that could represent the rebound heights.

d. Find the rebound height after the fifteenth bounce.

**8.** Sketch the shape of the graph of the function *y* = *bx* given each of the following values of *b*.

* 1. *b*is a number larger than 1.
  2. *b*is a number between 0 and 1.
  3. *b*is equal to 1.