Algebra 1 Chapter 5 Study Guide

1. Find the domain and range of each relation.

|  |  |
| --- | --- |
| ***Age of Person*** | ***Books Read*** |
| 65 | 42 |
| 36 | 37 |
| 29 | 37 |
| 29 | 17 |

|  |  |
| --- | --- |
| ***x*** | ***y*** |
| 51 | 50 |
| 45 | 39 |
| 31 | 27 |
| 31 | 24 |

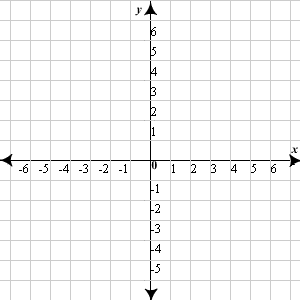
|  |  |
| --- | --- |
| ***x*** | ***y*** |
| 9 | 12 |
| 13 | 16 |
| 20 | 23 |
| -1 | 2 |

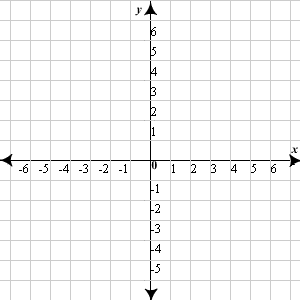
1. Evaluate for the given variable.
   1. for x = -1
   2. for x = 3
   3. for x = -2
   4. for x = 4
   5. for x = -5
   6. for x = 4
2. Solve the following story problems.
   1. A certain bounce house place charges $100 for bounce house rental, regardless of how long you want it, and an additional $50 for each hour you rent it.

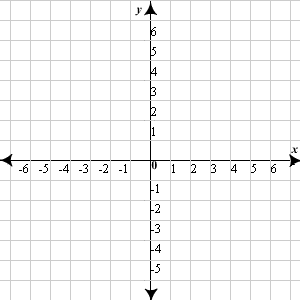
The rule represents the relationship between the number of hours *h* and the total cost of the rental *c*. What is the charge for 1 hour? 5 hours?

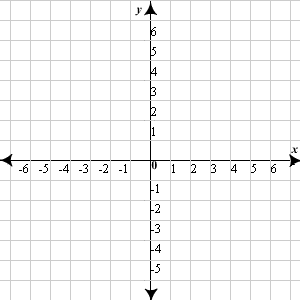
* 1. Phone companies used to charge everyone for every text message they sent or received. The plan would cost $25 a month, regardless of how many messages you had, and would cost an additional $0.10 per text message. The rule represent the relationship between the number of messages *m* and the total cost of the cell phone plan *c*. What is the charge after 50 text messages? After 250 text messages?
  2. A car salesman is paid a monthly salary of $700, regardless of how much he sold, and an additional 5% in commission for each car he sells. The rule represents the relationship between the sales of cars sold *c* and his paycheck *p*. How much would his paycheck be if he sold $50,000 in cars that month? What if he sold $75,000?

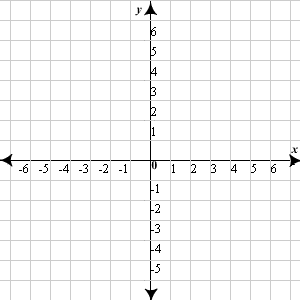
1. Graph the function.

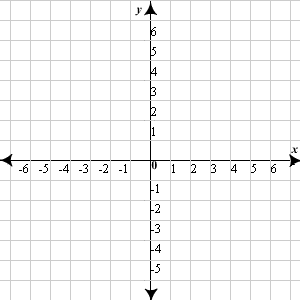












1. Write a function rule for the table.

|  |  |
| --- | --- |
| X | Y |
| 2 | -8 |
| 3 | -12 |
| 4 | -16 |
| 5 | -20 |

|  |  |
| --- | --- |
| X | Y |
| 3 | -12 |
| 4 | -16 |
| 5 | -20 |
| 6 | -24 |

|  |  |
| --- | --- |
| X | Y |
| 5 | 25 |
| 6 | 30 |
| 7 | 35 |
| 8 | 40 |

|  |  |
| --- | --- |
| X | Y |
| 1 | 3 |
| 2 | 5 |
| 3 | 7 |
| 4 | 9 |

|  |  |
| --- | --- |
| X | Y |
| 3 | 6 |
| 4 | 7 |
| 5 | 8 |
| 6 | 9 |

|  |  |
| --- | --- |
| X | Y |
| 3 | 7 |
| 4 | 8 |
| 5 | 9 |
| 6 | 10 |

1. Write a function rule for each situation.
   1. the total cost c(p) of *p* pencils if each pencil costs $0.10.
   2. the total you get paid p(h) for *h* hours if you get paid $8 per hour.
   3. the total cost c(y) of *y* ounces of frozen yogurt if each ounce costs $0.49.
2. Write a rule to describe the function. Then use it to answer the question.
   1. A car travels at a rate of 55 miles per hour. How far will the car travel in 4 hours?
   2. You fill a rectangular pool at a rate of 100 gallons per minute. How many gallons will be in the pool after 30 minutes?
   3. Mrs. Lund uses a dry erase marker for 4 days before throwing it out. How many markers will she go through in 180 days?
3. Find the constant of variation *k* for the direct variation.
   1. 4x = -6y
   2. 3x+5y=0
   3. 7x = -y
   4. 5x + 6y = 0
4. Write an equation of the direct variation that includes the given point.
   1. (7, 19)
   2. (3, -2)
   3. (9, -12)
   4. (-4, 7)
5. Find the second, fifth, and ninth term of each sequence.