**Section 4.1**

**Activity 1**

Define the following terms:

* Function
* Domain
* Target
* Range

**Activity 2**

|  |  |
| --- | --- |
| Let f: X → Y as shown by :* What is the domain of f?
* What is the target of f?
* What is the range of f?
* What is f(a)? f(b)? f(c)?
 |  |

**Activity 3**

Which of the following are functions?



What if the same arrows went the other direction?

**Activity 4**

Which of the following are functions?

1. f(x) = the town person x was born in
2. f(x) = the schools person x went to
3. f(x) = the college that person x graduated from
4. f(x) = x + 5
5. f(x) = 3 if x>2 otherwise f(x) = -2
6. f(x) = 7 if x>0 or f(x) = -7 if x<0 or f(x) = 7 or -7 if x = 0

**Activity 5**

|  |  |
| --- | --- |
| Represent f as a set of ordered pairs. |  |

**Activity 6**

Consider:

 L = {1,2,3,4,5}

 R = {A,B,C,D,F}

Which of the following are functions from L to R?

1. {(1,A),(2,B),(3,C),(4,D),(5,F)}
2. {(2,A),(2,B),(3,C),(4,D),(5,F)}
3. {(1,A),(2,A),(3,B),(4,B),(5,B)}
4. {(1,5),(2,4),(3,3),(4,2),(5,1)}
5. {(2,A),(3,B),(4,B),(5,B)}

**Activity 7**

1. Find all of the functions from X = {a,b} to Y={u,v}
2. Find all of the functions from X = {a,b} to Y={u}
3. How many functions would exist from X = {a,b,c,d} to Y={u,v,x}