**4. Graphs.**

If (f) is a function with domain (D), its graph consists of points in Cartesian plane whose coordinate are the input – output pairs for (f).

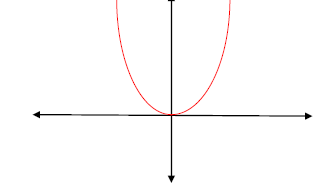
**Example 1: Graph the function y=x2**

**Solution//**

**1. Domain function =real number (R)**

|  |  |
| --- | --- |
| **x** | **y= (x2 )** |
| **0** | **0** |
| **1** | **1** |
| **2** | **4** |
| **-1** | **1** |
| **-2** | **4** |

**2. with x-axis →y=0→x2=0→x=0→ (0,0)**

**With y-axis →x=0→y=0→(0,0) **

**Example 2: graph the function y=**

**Solution//**

**1. Domain [4+2x=0**

**Domain function=R except {}**

**2.with y- axis, x=0 y=**

**y=0.5, (0,0.5)**

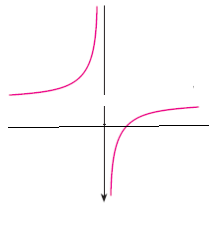
**with x- axis, y=0 0=**

**3. Vertical , 4+2x=0→x=-2**

**4. Horizontal, y=3/2**

**5.**

|  |  |
| --- | --- |
| **x** | **y=** |
| **0** | **0.5** |
| **1** | **5/6** |
| **2** | **1** |
| **-1** | **-0.5** |

****

**H.W. Example: graph the function y=(x+1)2**

**5. Function; Domain and range**

Domain represents values of (x)

Range represents values of (y)

**Example1: Find the domain and range of y=x2+1**

**Solution//**

**Domain function=R or**

**y=x2+1x=**

**Range function =y1**

**Example 2: Find the domain and range of y=**

**Solution//**

**X-1=0x=1→domain function=R except {1}**

**y=→yx-y=2x**

**x=**

**y-2=0**

**Range function=R except {2}**

**Example 3: Find the domain and range of y= -**

**Solution//**

**X+1=0→x=-1**

**X-1=0**

**Domain function=R except {-1,1}**

**y=**

**y=**

**y=**

**y**

**y**

**Range function= y**

**Example 4: Find the domain and range of y=**

**Solution/**

**x-1**

**x+2**

**Domain function={x:x}{x:x}**

**y=**

**Y2**

**Range function=R except {+}**

**H.W. Example: Find the domain and range of y=**