**Lecture 2**

**S1.2 : Linear Functions and their Graphs**

**Definition: A function  is called a linearfunction if *f* is defined by  , **

**where  *a* and *b* are real numbers .**

**Example 1.2.1: The function  defined by **

**is a linear function .**

**Example 1.2.2: The function  defined by **

**is a linear function .**

**Example 1.2.3: The function  defined by **

**is a linear function .**

**Example 1.2.4: Let  be the linear function defined by  . Find the *x* - intercept and the *y* - intercept of *f* .**

**Solution:   **

 ** **

 ** **

**Therefore the  *x* - intercept is **

**  the *y* - intercept is 10 .**

**Example 1.2.5: Let  be the linear function defined by  . Find the *x* - intercept and the *y* - intercept of *g* .**

**Solution:   **

 **   **

**Therefore the  *x* - intercept is 30**

**  the *y* - intercept is  .**