**تكملة خواص الغايات:**

1. **إذا كانت *Lim* f(*x*) = A و كانت c عدد ثابت فإن:**

 ***x* = *a***

***Lim* c f(*x*) = cA**

 ***x* = *a***

**Ex: Find the Limits for the Following Function:**

1. **f(*x*) = 2 , *x* = – 1**

***Lim* f(*x*)**

***x* = – 1**

***Lim* 2 = 2**

***x =* – 1**

1. **f(*x*) = + *x*2 , *x* = *a***

***Lim* f(*x*)**

 ***x* = *a***

**= *Lim* ( + *x*2)**

 ***x* = *a***

**= *Lim*  + *Lim x*2**

 ***x* = *a x = a***

**= + *a*2**

**=**

1. **f(*x*) = *x*2  , *x* = *b***

***Lim* f(*x*)**

***x* = *b***

**= *Lim* (x2 ())**

 ***x* = *b***

**= *Lim x*2 . *Lim***

 ***x* = *b x = b***

**= *b*2 . = *b***

1. **f(*x*) = *x*3 – 3*x* + 4**

 ***Lim* f(*x*)**

 ***x* = 2**

**= *Lim* (*x*3 – 3*x* + 4)**

 ***x* = 2**

**= *Lim x*3 – *Lim* 3*x* + *Lim* 4**

 ***x* = 2 *x =* 2 *x* = 2**

 **= (2)3 – 3(2) + 4**

 **= 8 – 6 + 4**

 **= 6**

1. **إذا كانت*Lim* g(*x*) = A و *Lim* g(*x*) = B وبشرط B ≠ 0 فإن:**

 **= =**

1. ***إذا كانت Lim* [f(*x*)]*n* *وكانت n* *عدد نسبي فإن:***

 **=[**

**Ex: Find the limit for the Following Functions :**

1. **f(*x*) = *x*5 , *x* = 2**

 ***Lim* f(*x*)**

 ***x* = 2**

**= *Lim x*5**

 ***x* = 2**

**= [*Lim x*]5 = [2]5 = 32**

 ***x =* 2**

1. **f(*x*) =**

 ***Lim* f(*x*)**

 ***x* = 4**

**= *Lim* [ ]**

 ***x* = 4**

**= *Lim x* [ ]**

 ***x =* 4**

 **= *Lim* [2*x* + 1]**

 ***x =* 4**

**= 2(4) + 1**

**= 9**

1. **f(*x*) = , *x* = 4**

 ***Lim* f(*x*)**

 ***x* = 4**

**= *Lim* [ ]**

 ***x* = 4**

 **=**

 **=**

 **=**

 **=**