**GRAPHING LINEAR FUNCTIONS and TRANSFORMATIONS**

**EXAMPLE 1**

f(x) = x + 2

|  |  |  |
| --- | --- | --- |
| x | f(x) | f(x) + 5 |
| -2 |  |  |
| -1 |  |  |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Describe the transformation:

**EXAMPLE 2**

f(x) = 3x – 2

|  |  |  |
| --- | --- | --- |
| X | F(x) | F(x) + 4 |
| -2 |  |  |
| -1 |  |  |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Describe the transformation:

**What happens when you add a positive number to the output?**

**EXAMPLE 3**

F(x) = -4x +1

|  |  |  |
| --- | --- | --- |
| X | F(x) | F(x) – 7 |
| -2 |  |  |
| -1 |  |  |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Describe the transformation:

**EXAMPLE 4**

F(x) = 10x – 3

|  |  |  |
| --- | --- | --- |
| X | F(x) | F(x) - 4 |
| -2 |  |  |
| -1 |  |  |
| 0 |  |  |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |

Describe the transformation:

**What happens when you add a negative number to the output?**