| By the end of the unit, it is expected that you will: | $\stackrel{:-}{\text { EXCELLENT }}^{2}$ | $\odot$ LOOK over | $\stackrel{\otimes}{\text { what? }}$ |
| :---: | :---: | :---: | :---: |
| Understand the relationship between two variables by defining the following: <br> Relations, Functions, One-to-One Functions <br> Are able to use the Vertical line test and Horizontal Line test |  |  |  |
| Be able to use the Sum, Difference, Product and Quotients of Functions to compute expressions <br> QUESTIONS: <br> Compute each expression given the functions $f$ and $g$ are defined as follows: $f(x)=2 \mathrm{x}+1, \quad g(x)=\mathrm{x}^{2}-2 \mathrm{x}+1$ <br> a) $(f+g)(x)$ <br> b) $(f-g)(x)$ <br> c) $(f g)(x)$ <br> d) $f / g(x)$ |  |  |  |
| Understand and perform the composition function $f \circ g$ Decompose a composite function. <br> QUESTIONS: <br> 1. If $f(x)=1-x^{2}, g(x)=2 x+3$, find <br> a) $(f \circ g)(x)$ <br> b) $(g \circ f)(x)$ <br> 2. Find two functions $f(\mathrm{x})$ and $g(\mathrm{x})$ such that $h(\mathrm{x})=(f \circ g)(\mathrm{x})$ <br> a) $h(x)=(2 x-3)^{2}$ |  |  |  |
| Understand how to apply the following TRANSFORMATIONS to the graphs of basic functions: <br> - translations - vertical and horizontal shifts <br> - reflections of the graph about the $x$-axis and $y$-axis <br> - compressions and expansions of the graph |  |  |  |


| Section and page number | Mandatory questions |
| :---: | :---: |
| 2.1 p. 53 | 1,2, 3 |
| 2.2 p. 57 | 1 odd, 2 odd, 3 odd, 4bc, 5, |
| 2.3 p. 66 | 1 odd, 2 odd, 3 odd, 4 odd, 5 odd, $6 \mathrm{a}, 7 \mathrm{a}, \mathrm{d}, \mathrm{g}, \mathrm{k}, 10 \mathrm{a}, \mathrm{d}$ |
| 2.4 Translations <br> p. 79-82 | 1ace, 2abc, 9de, 10ade <br> Worksheet \#1 <br> solutions on-line.... <br> basimath.weebly.com |
| 2.4 Reflections and Inverse p. 79-82 | 1bdfgh, 2defgh, 9abcf, 10bcf, 11, 12, 13 <br> Worksheet \#2 <br> solutions on-line...... basimath.weebly.com |
| 2.4 Expansions \& Compressions p. 83-84 | 18abcd, 19 <br> Worksheet \#3 <br> solutions on-line...... basimath.weebly.com |
| 2.4 Reciprocal Functions <br> p. 82-83 <br> 2.5 Inverse <br> p. 90-93 | $15,16,17$ $1,3 a, c, 6 a, c, e, 7,9,10$ |
| 2.6 Combined Transformations p.97-99 | 2acegi, 3ace, 4, 5ab, 6ab, 7 |
| Ch. Review p. 100-112 | $\begin{aligned} & 1-7,10-12,15-18,22,28,29,32,34,39-41,44,47-51 \text {, } \\ & 53,55,57-59,61,64-67 \end{aligned}$ |

