**Approved Supplemental Mathematics Reference Sheet—Grade 10**

***ONLY*** for use by students on the MCAS Mathematics test who have this accommodation listed in their IEP or 504 plan

| **General Problem-Solving Process** | **Properties** |
| --- | --- |
| 1. Read/reread the problem for understanding. 2. Identify what the question is asking. 3. Make a plan to solve the problem. (*Choose at least one strategy.*)    * Draw a picture.    * Create a table, chart, or list.    * Look for a pattern.    * Work backwards.    * Write a number sentence or an equation. 4. Solve the problem. 5. Reread the problem to see if your solution makes sense. | * FOIL     Properties: Foil Method           (a+b)(c+b)= ac + ad +bc +bd |
| **Fractions** | **Vocabulary** |
|  |  |
| **Divisibility Rules** | **Order of Operations** |
| | 2 | If the last digit is even | | --- | --- | | 3 | If the sum of the digits can be divided by 3 | | 5 | If the last digit is 0 or 5 | | 6 | If the number is divisible by both 2 and 3 | | 9 | If the sum of the digits can be divided by 9 | | 10 | If the last digit is 0 | | **PEMDAS**   1. **P**arentheses (brackets, etc.) 2. **E**xponents 3. **M**ultiplication or **D**ivision (left to right) 4. **A**ddition or **S**ubtraction (left to right) |
| **GEMA**   1. **G**rouping 2. **E**xponents 3. **M**ultiplicative operations (multiplication or division – left to right) 4. **A**dditive operations (addition or subtraction – left to right) |

| **Probability** | **Percentages and Proportions** | |
| --- | --- | --- |
|  | * if , then | |
| **Statistics** | **Transformations** | |
| * Mean - Average * Median - Middle * Mode – Most often * Range – Least to Greatest | * Translation - Slide * Reflection - Flip * Rotation - Turn | |
| **Geometry and Measurement Abbreviations** | **Symbols** | |
|  | * = absolute value of *x* | |
| **Number Line** | | |
|  | | |
| **Angles** | | |
| * Complementary 90 | | * Supplementary 180 |

|  |  |
| --- | --- |
| **General Formulas** | **Coordinate Plane** |
|  | * = * Midpoint (*M)* =   Coordinate plane |