## M2 - Unit 2B Quadratics II

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| 1. Absolute Value of a Complex Number | The distance from the origin on the complex number plane. In general, \|a + bi $I=\sqrt{ }\left(a^{2}+b^{2}\right)$ |
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| 2. Axis of Symmetry | Divides the parabola into mirror images and passes through the vertex, $x=-b / 2 a$ |
| 3. Completing the Square | A method of solving quadratic equations. Completing the square turns every quadratic equation into the form $x^{2}-c$. |
| 4. Complex Conjugates | Number pairs of the form $\mathrm{a}+\mathrm{bi}$ and $\mathrm{a}-\mathrm{bi}$. |
| 5. Complex Number | The real numbers and the imaginary numbers. |
| 6. Complex Number Plane | A plane identical to the coordinate plane except each ordered pair ( $a, b$ ) represents the complex number a + bi. The horizontal axis is the real axis. The vertical axis is the imaginary axis. |
| 7. Discriminant | In the Quadratic Formula, the expression under the radical sign, $b^{2}-4 a c$. |
| 8. Elimination Method | A method for solving a system of linear equations. You add or subtract the equations to eliminate a variable. |
| 9. Imaginary Number | Any number of the form $a+b i$, where $a$ and $b$ are real numbers and $b \neq 0$. |
| 10. Imaginary Unit | The imaginary unit, $i$, is the complex number whose square is -1 . |
| 11. Maximum | The highest point on the graph of a curve, such as the vertex of a parobala the opens downward. |
| 12. Minimum | The lowest point on the graph of a curve, such as the vertex of a parabola that opens upward. |
| 13. Parabola | $U$ shape made by a quadratic function. |
| 14. Pure Imaginary Number | If $a=0$ and $b \neq 0$, the number $a+b i$ is $a$ pure imaginary number. |
| 15. Quadratic Equation | An equation that can be written in the standard form $y=a x^{2}+b x+c=0$ where $a \neq 0$. |
| 16. Quadratic Formula | $x=\left(-b \pm \sqrt{ }\left(\mathrm{b}^{2}-4 a c\right)\right) / 2 \mathrm{a}$ |
| 17. Quadratic Function | A function that can be written in the form $f(x)=a x^{2}+b x+c$, where $a \neq 0$. |
| 18. Quadratic <br> Parent <br> Function | The simplest quadratic function. $\mathrm{f}(\mathrm{x})=\mathrm{x}^{2}$ |
| 19. Root of the Equation | A solution of an equation. |

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System of Equations
Standard Form of a Quadratic Equation
Standard Form of a Quadratic Function

Substitution Method
4. Vertex

Zero of a Function

ZeroProduct Property

Any set of ordered pairs in a system that make all of the equations in that system true.
$y=a x^{2}+b x+c$; shows the $y$ intercept of $a$ parabola.
$f(x)=a x^{2}+b x+c$; shows the $y$ intercept of a parabola.

A method of solving a system of equations by replacing one variable with an equivalent expression containing the other variable.

The maximum or minimum point of a parabola.

A solution of the equation $f(x)=0$ is a zero of the function $f$ or a root of the equation.
For all real numbers $a$ and $b$, if $a b=0$, then $a=0$ or $b=0$.

