**Characteristics from equations of Quadratic Functions Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| --- | --- | --- | --- |
| ***Characteristic*** | ***Standard Form*** | ***Factored Form*** | ***Vertex Form*** |
| y-intercept | set x=0 and solve for y  y-int = *c* | set x=0 and solve for y | set x=0 and solve for y |
| x-intercept | set y=0 and solve for x  Quadratic Formula | set y=0 and solve for x  Set each factor = 0 and solve | set y=0 and solve for x  plus/minus square root |
| Vertex | *x-coordinate*: average of x-ints (symmetry)  *y-coordinate*: sub x-coordinate into equation | *x-coordinate*: average of x-ints (symmetry)  *y-coordinate*: sub x-coordinate into equation | Vertex = V(h,k) |
| Direction of Opening | Opens up when a > 0 (positive)    Opens down when a < 0 (negative) | Opens up when a > 0  Opens down when a < 0 | Opens up when a > 0  Opens down when a < 0 |
| Axis of Symmetry | Use Vertex V(h,k) to find axis of symmetry:  x = h | Use Vertex V(h,k) to find axis of symmetry:  x = h | Use Vertex V(h,k) to find axis of symmetry:  x = h |
| Domain | Always  unless there is a context. | Always  unless there is a context. | Always  unless there is a context. |
| Range | Use Vertex V(h,k) and Direction of Opening  (up)  or  (down) | Use Vertex V(h,k) and Direction of Opening  (up)  or  (down) | Use Vertex V(h,k) and Direction of Opening  (up)  or  (down) |