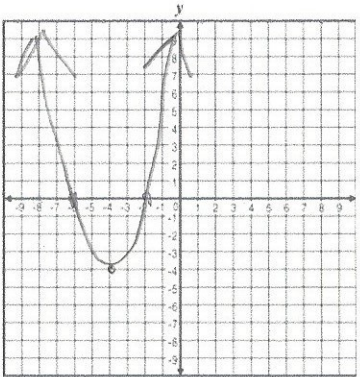
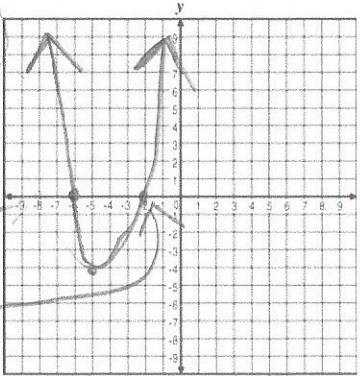
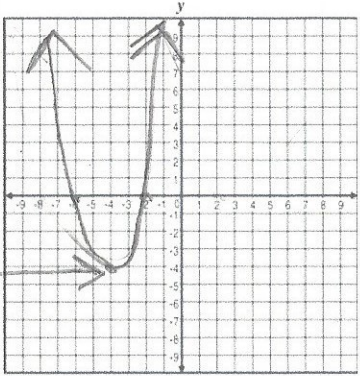


Quadratic Function Forms and Features

Directions: In the Table below you will find the 3 forms that we often find quadratic functions in. For each function, give the function format, give the key feature on why we would use or chose that format, and then give an example with it's graph.

| Form | Function | Key Feature | Example |
|---------------|--|---|--|
| Standard Form | $y = ax^2 + bx + c$ | c is the y-intercept to solve, you can factor or use the quadratic formula $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ | $y = x^2 + 8x + 16$ y-intercept (0, 16)  |
| Factored Form | $y = (x+a)(x+b)$ | when $(x+a)(x+b) = 0$ you can find the roots/zeros and solve for x | $y = (x+2)(x+6)$ roots $x = -6$ $x = -2$  |
| Vertex Form | $y = a(x-h)^2 + k$ where (h, k) is the vertex | (h, k) is the vertex of the quadratic when a is positive graph opens up a is negative graph opens down | $y = (x+4)^2 - 4$ $(-4, -4)$ vertex  |