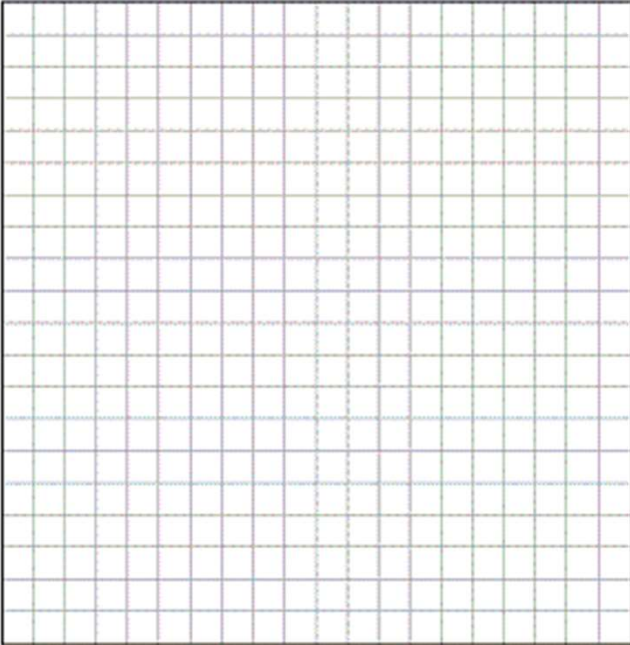


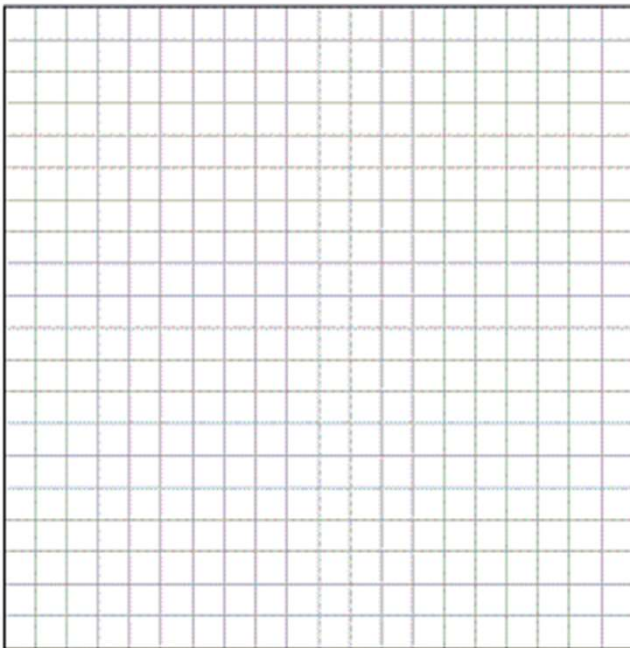
Sketch Quadratic Graphs

1. Graph the following functions, and identify key features of the graph.

a) $p(x) = x^2 - 2x + 1$



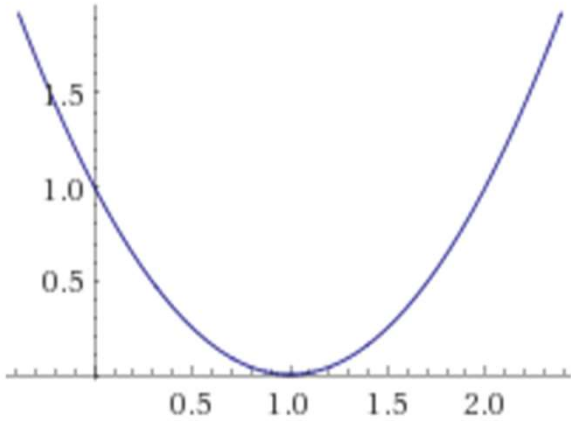
b) $q(x) = 4x^2 + 20x + 24$



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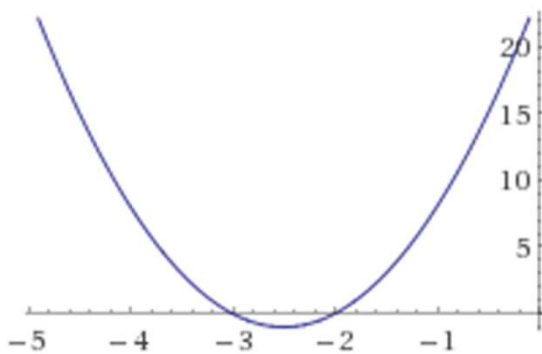
1. Graph the following functions, and identify key features of the graph.

a) $p(x) = x^2 - 2x + 1$



x-intercept is a double root and is also the vertex $(1, 0)$; the *y*-intercept is $(0, 1)$.

b) $q(x) = 4x^2 + 20x + 24$



$q(x) = 4(x^2 + 5x + 6) = 4(x + 2)(x + 3)$;
x-intercepts $(-2, 0)$ and $(-3, 0)$;
y-intercept $(0, 24)$;
vertex is where $x = -2.5$ at the point $(-2.5, -1)$.