Deliverable ID: Plot points on a coordinate grid

Standard:	HSF.IF.C.7(c)
Unpacked standard alignment:	Graph a polynomial function, given its equation in factorable form.
DOK:	2
Revised Bloom's level – Cognitive Process Dimension:	B3
TEI type:	Plot points on a coordinate grid
Functionality notes:	Grid should be 15 x 15

Item Stem:

Plot the *x*- and *y*-intercepts of $f(x) = x^3 - 2x^2 - 11x + 12$ on the coordinate grid.

Key: Points should be plotted at (–3, 0), (1, 0), (4, 0) and (0, 12)

Rationale: Factor and rewrite the function as $f(x) = (x - 1)(x + 3)(x - 4)$. Then solve $f(x) = 0$ to find *x*-intercepts at 1, –3, and 4. Finally, evaluate $f(0)$ to find the *y*-intercept of the graph.