Algebra II Dr. Paul L. Bailey Activity 0922 Thursday, September 22, 2022 Name:

Problem 1. Find the x and y intercepts of the line

$$y = 2(x - 5) + 3.$$

Problem 2. Find the x and y intercepts of the circle

$$(x-5)^2 + (y-12)^2 = 169.$$

Problem 3. Find the x and y intercepts of the parabola

$$y = x^2 - 5x - 14.$$

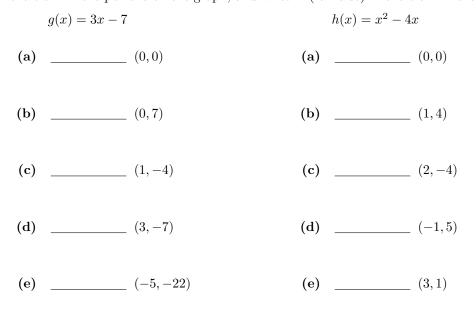
Problem 4. For each continent c, let f(c) denote the first letter of the English name of the continent. This creates a function.

- (a) What is the domain of the function? How big is it?
- (b) What is the codomain of the function? How big is it?
- (c) What is the range of the function? How big it it?
- (d) What is f(Europe)?

Problem 5. Let $f(x) = x^2 - 7x + 1$. (a) Find f(1).

- (b) Find f(2).
- (c) Find f(-3).

Problem 6. The graph of a function f is a picture of the locus of the equation y = f(x). For the given function, determine if the given point is on the graph of the function. Write **T** (for true) in the blank if the point is on the graph, and write **F** (for false) in the blank if the point is not on the graph.



Problem 7. Let $f(x) = x^2 - 8x + 15$.

(a) Solve the equation f(x) = 0.

(b) Find the x and y intercepts of the equation y = f(x).

(c) The graph of f is a parabola. Find its vertex.