

3.5 Solve Systems of Equations by Graphing Notes

In this section, we will use tables and graphs to determine when functions are equal to each other.

Example 1:

Using the tables below, find when $f(x) \approx g(x)$ if $f(x) = x^2 - 3$ and $g(x) = -\frac{1}{2}x + 1$.

x	$f(x)$
-3	6
-2	1
-1	-2
0	-3
1	-2
2	1
3	6

x	$g(x)$
-3	0
-2	-0.5
-1	-1
0	-1.5
1	-2
2	-2.5
3	-3

Example 2: Use technology to find when $f(x) = g(x)$. Draw a rough sketch of the graph.

$$f(x) = x^2 + x - 12 \text{ and } g(x) = \log(x + 5) - 3.$$



Example 3: Use technology to find when $f(x) = g(x)$. Draw a rough sketch of the graph.

$$f(x) = \frac{2}{3}|x + 1| - 8$$

$$g(x) = \frac{2x^2}{x^2 - 4x + 45}$$

