

Section 2.2 Solving Equations Graphically

Objective: In this lesson you learned how to find intercepts, zeros, and solutions of equations graphically.

Course Number

Instructor

Date

Important Vocabulary

Define each term or concept.

x -intercept

y -intercept

Zero

Point of intersection

I. Intercepts, Zeros, and Solutions (Pages 169–171)

To find the x -intercepts of the graph of an equation, . . .

To find the y -intercepts of the graph of an equation, . . .

Example 1: For the equation $3x - 4y = 12$, find:

(a) the x -intercept(s), and (b) the y -intercept(s).

To find the zeros of a function, . . .

For a function $y = f(x)$ where $f(a) = 0$, describe the close connection among x -intercepts, zeros, and solutions.

Example 2: Explain how to verify that 2 and 5 are zeros of the function $f(x) = x^2 - 7x + 10$.

What you should learn

How to find x - and y -intercepts of graphs of equations

II. Finding Solutions Graphically (Pages 171–172)

To use a graphing utility to graphically approximate the solutions of an equation, . . .

What you should learn
How to find solutions of equations graphically

Example 3: Use a graphing utility to approximate the solutions of $3x^2 - 14x = -8$.

III. Points of Intersection of Two Graphs (Pages 173–175)

To find the points of intersection of the graphs of two equations algebraically, . . .

What you should learn
How to find the points of intersection of two graphs

To find the points of intersection of the graphs of two equations with a graphing utility, . . .

Example 4: Use (a) an algebraic approach and (b) a graphical approach to finding the points of intersection of the graphs of $y = 2x^2 - 5x + 6$ and $x - y = -6$.

Homework Assignment

Page(s)

Exercises