Objective: In this lesson you learned how to sketch the graph of an equation.

Section 1.2 Graphs of Equations

Important Vocabulary	Define each term or concept.
Equation in two variables	
Solution of equation in two variables	
Graph of an equation	
Intercepts	
Symmetry	
Circle	

I. The Graph of an Equation (Pages 33 - 35)

To sketch the graph of an equation in two variables using the point-plotting method, ...

What you should learn How to sketch graphs of equations

A disadvantage of the point-plotting method is . . .

Example: Complete the table. Then use the resulting solution points to sketch the graph of the equation y = 3 - 0.5x.

x	-4	-2	0	2	4
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II. Intercepts of a Graph (Page 36)

An *x*-intercept is written as the ordered pair ______, and a *y*-intercept is written as the ordered pair ______.

To identify the *x*-intercepts of a graph, ...

To identify the *y*-intercepts of a graph, ...

III. Symmetry (Pages 37-38)

The three types of symmetry that a graph can exhibit are ...

Knowing the symmetry of a graph before attempting to sketch it is helpful because . . .

A graph is symmetric with respect to the *y*-axis if, whenever (x, y) is on the graph, _______ is also on the graph. A graph is symmetric with respect to the *x*-axis if, whenever (x, y) is on the graph, _______ is also on the graph. A graph is symmetric with respect to the origin if, whenever (x, y) is on the graph, _______ is also on the graph.

What you should learn How to find *x*- and *y*-intercepts of graphs of equations

What you should learn How to use symmetry to sketch graphs of equations The graph of an equation is symmetric with respect to the *y*-axis if . . .

The graph of an equation is symmetric with respect to the *x*-axis if . . .

The graph of an equation is symmetric with respect to the origin if . . .

Example: Use symmetry to sketch the graph of the equation $y = 2x^2 + 2$.



IV. Circles (Page 39)

The standard form of the equation of a circle with center

(h, k) and radius r is

The standard form of the equation of a circle with radius r and its center at the origin is

Example: For the equation $(x + 2)^2 + (y - 1)^2 = 4$, find the center and radius of the circle and then sketch the graph of the equation.

What you should learn How to find equations and sketch graphs of circles



V. Application (Page 3:)

List and describe three common approaches to solving a problem.

- 1)
- 2)
- 3)

Describe a real-life situation in which a graphical solution approach would be helpful.

Additional notes



Homework Assignment Page(s) Exercises

What you should learn How to use graphs of equations in solving real-life problems