

Chapter 10 Topics in Analytic Geometry

Section 10.1 Lines

Objective: In this lesson you learned how to find the inclination of a line, the angle between two lines, and the distance between a point and a line.

Course Number

Instructor

Date

Important Vocabulary

Define each term or concept.

Inclination (of a nonhorizontal line)

Angle between two lines

I. Inclination of a Line (Pages 770–771)

Every nonhorizontal line must _____.

The angle formed by such an intersection determines the _____ of the line.

If a nonvertical line has inclination q and slope m , then $m =$ _____.

Example 1: Find the inclination of the line given by

$$y = \frac{1}{2}x + 5.$$

What you should learn

How to find the inclination of a line

II. The Angle Between Two Lines (Pages 771–772)

If two nonperpendicular lines have slopes m_1 and m_2 , the angle between the two lines is given by

$\tan q =$ _____

Example 2: Find the angle between the two lines: $y = -4x + 1$ and $y = 3x - 2$.

What you should learn

How to find the angle between two lines

III. The Distance Between a Point and a Line

(Pages 772–773)

The distance between a line and a point not on the line is defined to be . . .

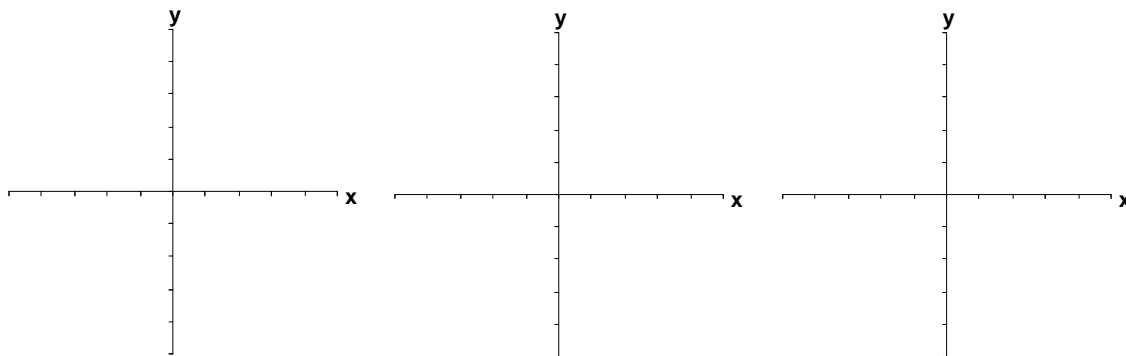
What you should learn

How to find the distance between a point and a line

The distance between the point (x_1, y_1) and the line $Ax + By + C = 0$

is $d =$ _____ .

Example 3: Find the distance between the point $(1, 1)$ and the line $y = 6 - 3x$.

Additional notes**Homework Assignment**

Page(s)

Exercises