

3.3 Skill Builder: Solving Inequalities

Specific Expectations

The following expectation is common to the Functions and Relations course and the Functions course.

- OC1.01 solve first-degree inequalities and represent the solutions on number lines

Evidence of Learning

Students should be able to

- show steps for the solution of an inequality
- interpret or present the solution of an inequality on a number line
- use inequalities to determine and describe domain and range
- use set notation

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Time Required Functions and Relations: 30 min

Time Required Functions: 50 min

Overview

- Compare solving inequalities to solving linear equations.
- Use conventional notation—a number line, an inequality statement, set notation, a graph—to represent an inequality and its domain and range.

Management Options

Teacher Demonstration – Demonstrate set notation and review number lines. Then ask student to do questions 1 and 2 of the *Practise, Apply, Solve*. Next show a few examples of solving inequalities and then assign questions 3 to 5 of the *Practise, Apply, Solve*, or selected parts of these questions. Finally, discuss the connection between inequalities and the domain and range of a function.

Independent Work – Software that teaches how to solve inequalities may be available in some schools.

ASSESSMENT SUGGESTION

Knowledge and Understanding

A paper-and-pencil quiz will provide students with an opportunity to demonstrate their mastery of solving inequalities. Include questions for which students must provide the algebraic solution and the corresponding graphical solution.

ASSESSMENT SUGGESTION

Work Habits/Homework

Practising skills develops good work habits and encourages students to complete assignments and pay attention to the presentation of solutions.

Questions with a University Focus:
1–12

Questions with a University/College Focus:
1–7