

Bowling Anyone?

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Activity overview

Solving Linear Equations

Concepts

Identify solutions of systems of linear equations in two variables.

NYS Standards:

Algebra R.1: Use physical objects, diagrams, charts, tables, graphs, symbols, equations or objects using technology as representations of mathematical concepts

A.R.3: Using representations as a tool for exploring and understanding mathematical ideas.

Teacher preparation

Review slope intercept form

Review how to write an equation in slope intercept form

Classroom management tips

Make sure that all students know how to find the point of intersection on a graphing calculator

A brief review of graphing is recommended.

Students can work together with their calculator” buddy.”

Activity

Robert and his son Bobby are avid bowlers. However, Robert prefers Homefield Bowl and Bobby prefers White Plains Bowl. At White Plains Bowl the charge per game is \$2.50 and it costs \$2.00 for shoe rental. At Homefield Bowl the cost is \$2.00 per game and the shoe rental is \$4.00. They are wondering for how many games will the cost to bowl be the same at both places.

They decided to solve their problem algebraically.

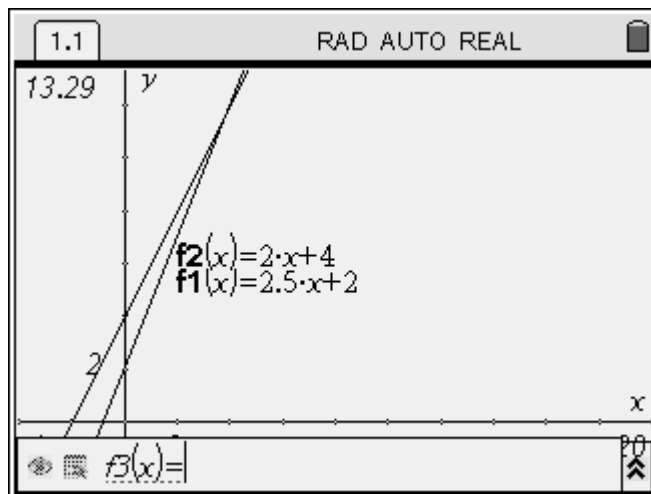
Step1: Write a system of equations:

Bobby's equation for White Plains bowl: WP Bowl: $y = 2.5x + 2$

Robert's equation for Homefield Bowl: HF Bowl: $y = 2x + 4$

Step 2 Graph both equations

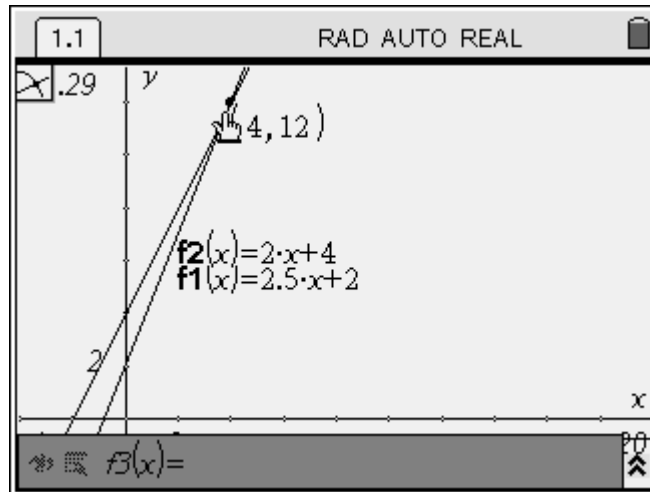
Obviously the number of games and the cost must be positive so we will set the graph up in Quadrant 1.



Step 3:

Use the trace key to find the point of intersection.

The point of intersection (4, 12) will be the number of games they can both play for the same cost.



Step 4: Check:

Use the calculator function.

We are done!

