

Title:

Where does the Profit Begin?

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Activity overview

Using a spreadsheet to answer the question: Where does profit begin?

Concepts

Use spreadsheets to model real world linear relationships.

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 evaluation of algebraic expressions.

*Use of TI-*n*spire*

Classroom management tips

The activity is student centered.

Problem:

Step-by-step directions

RJK Enterprises manufactures golf clubs. The company costs are 400 per week, plus 20 per golf club. Each club sells for 45. How many golf clubs must be sold in one week to make a profit?

Students should devise a plan on how to solve the problem.

One example could be:

Let n represent the number of golf clubs RJK sells in one week.

Let c represent the total cost

Let s represent the total sales

Let p represent the profit

Let $c = 400 + 20n$

Let $s = 45n$

Let $p = s - c$

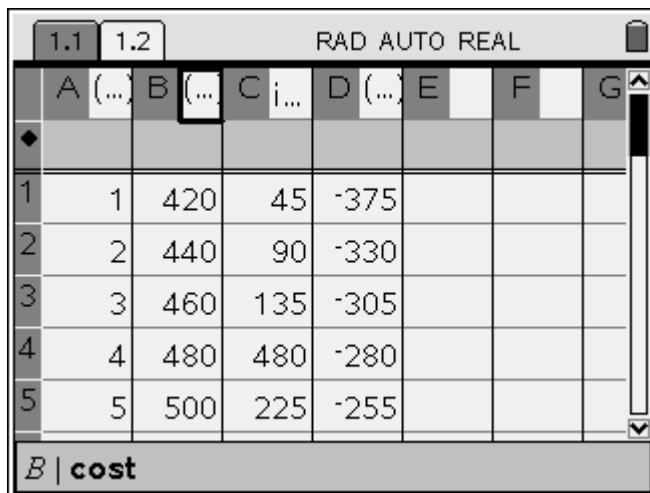
Set up the spreadsheet

Column A: Number of Golf Clubs

Column B: Total Cost

Column C: Total Income

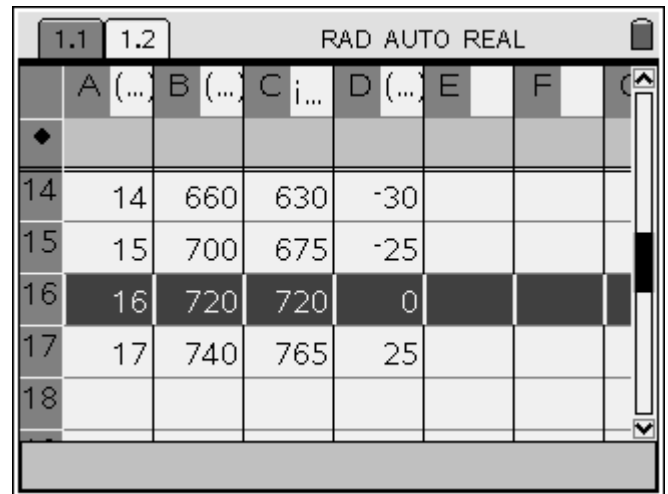
Column D: Profit



	A (...)	B (...)	C i...	D (...)	E	F	G
1	1	420	45	-375			
2	2	440	90	-330			
3	3	460	135	-305			
4	4	480	180	-280			
5	5	500	225	-255			

B | cost

Notice the “breakpoint.” It occurs on the spreadsheet at 16 clubs. This is where profit would begin!



	A (...)	B (...)	C (...)	D (...)	E	F
14	14	660	630	-30		
15	15	700	675	-25		
16	16	720	720	0		
17	17	740	765	25		
18						

Additional questions could include:

If the company needed to make a profit of \$225, how many clubs would RJK need to sell?

If RJK sells 11 clubs, will it make a profit?