

# Monopoly™ Part 3

## Student Investigation

7 8 9 10 11 12



TI-Nspire™



Activity



Student



120 min

## Investigation

Part 1 of this investigation explored the change in property prices as a player advanced around the board. Part 2 explored the return on investment; which properties paid the best rent in comparison to their purchase price?

A little more investigation combined with some data collection is required to build a robust strategy for the game of Monopoly.

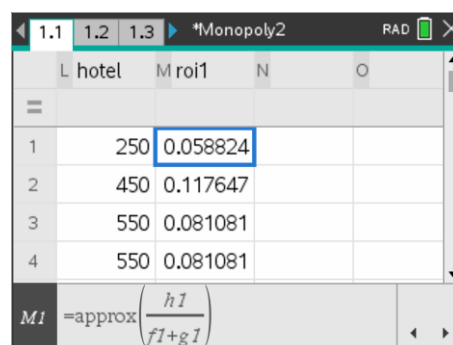


## Instructions

Open your TI-Nspire document from Part 2 and navigate to the spreadsheet application. The spreadsheet should already contain the Property names, where they are on the board, mortgage value, rent and return on investment columns.

In this section of the investigation you will need to record:

- Property group cost
- House price
- Rental (for each additional house)
- Rental (for each hotel)



	L hotel	M roi1	N	O
1	250	0.058824		
2	450	0.117647		
3	550	0.081081		
4	550	0.081081		

$M1 = \text{approx} \left( \frac{h1}{\sqrt{1+g1}} \right)$

The image shown (above right) illustrates how the spreadsheet can be used to calculate the “Return On Investment” for ONE house on a particular property group. “ROI1” divides the rental return by the cost of purchasing the entire property group and placing ONE house on the specific property.

In building a winning strategy, whilst remaining within the rules, it must be noted that “You cannot build more than one house on any property of a colour-group until you have built one house on every property of that colour-group”.<sup>1</sup>

<sup>1</sup>Source: [https://www.hasbro.com/common/instruct/Monopoly\\_Vintage.pdf](https://www.hasbro.com/common/instruct/Monopoly_Vintage.pdf) [Hasbro is the manufacturer of Monopoly!]

### Question: 1.

Investigate which properties (groups) provide the best return on investment for a single house.

### Question: 2.

Investigate which properties (groups) provide the best return on investment when a house is placed on each property within the group.

Investigate each property group as additional houses are added.

### Question: 3.

Imagine you could choose whichever property group(s) you like, but you have a budget!

Explore different budgets such as: \$1000, \$2000 and \$3000 and determine the best groups and capital improvements.