

# Carlos' Cell Phone Lesson Plan

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Adapted from the *Buying mp3s* Lesson Study by:

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## The Task

Carlos is thinking of changing cell phone plans so he is comparing several different plans.

- Plan 1) Pay as you go plan \$0.99 per minute
- Plan 2) \$30 monthly fee plus \$0.45 per minute
- Plan 3) \$40 monthly fee plus \$0.35 per minute
- Plan 4) \$60 monthly fee plus \$0.20 per minute
- Plan 5) \$100 monthly fee for unlimited minutes

What will Carlos need to consider to make his decision? How can Carlos figure out which plan is best for him?

### Materials

- The task
- Rulers
- Scratch (graph) paper
- Color pencils
- Calculators
- Document camera for groups to present findings or, alternatively, one large presentation paper per group

### Facilitating Task

- Class will be divided into groups of 3-4 students.
- Read the task together and answer clarifying questions.
- Groups will be given materials upon request.
- Give students individual think time and then work together in groups.
- Groups present findings during last 10-15 minutes of class.

### Misconceptions

- Incorrect formulas (e.g.,  $c=30m+.45m$  versus  $c=30+.45m$ )
- Independent versus dependent variable confusion
- Graphing outside of Quadrant I
- Graphing lines incorrectly

### Suggested Prompts or Questions

- Do you pay the monthly fee with *each* phone call?
- Which quantity depends on the other, number of minutes or cost?
- Can you have negative minutes?
- What kind of line would  $c$  (or  $y$ ) = 100 be?