

NAME: _____

UNIT 2 • REASONING WITH EQUATIONS AND INEQUALITIES

Lesson 1: Solving Equations and Inequalities

Problem-Based Task 2.1.3: Landlines Versus Cell Phones

In 2008, about 66.1 million U.S. households had both landline phones and cell phones. At that time, it was expected that the number of households with both landline and cell phone service would decrease by an average of 5 million households per year. Approximately 27.8 million households had only cell phones, and it was expected that the number of households with only cell phones would increase by an average of 15 million households per year. According to this data, in about how many years would the number of households with only cell phone service be greater than the number of households with both cell phones and landlines?

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Coaching

- a. In 2008, how many households had both landlines and cell phones?

- b. By how much was this number expected to decrease each year?

- c. What expression can be written to represent the number of households with both a landline and a cell phone after x years?

- d. In 2008, how many households had just a cell phone?

- e. By how much was this number expected to increase each year?

- f. What expression can be written to represent the number of households with just cell phones after x years?

- g. What inequality can be written to show when the number of households with only cell phones would be greater than the number of households with both cell phones and landlines?

- h. In how many years would the number of households with only cell phone service be greater than the number of households with both cell phone service and landlines?