

Now

In Chapter 5, you will apply the big ideas listed below and reviewed in the Chapter Summary on page 344. You will also use the key vocabulary listed below.

Big Ideas

- 1 Writing linear equations in a variety of forms
- 2 Using linear models to solve problems
- 3 Modeling data with a line of fit

KEY VOCABULARY

- point-slope form, p. 302
- converse, p. 319
- perpendicular, p. 320
- scatter plot, p. 325
- correlation, p. 325
- line of fit, p. 326
- best-fitting line, p. 335
- linear regression, p. 335
- interpolation, p. 335
- extrapolation, p. 336
- zero of a function, p. 337

Why?

You can use linear equations to solve problems involving a constant rate of change. For example, you can write an equation that models how traffic delays affected excess fuel consumption over time.

Animated Algebra

The animation illustrated below for Exercise 40 on p. 307 helps you to answer the question: In what year was a certain amount of excess fuel consumed?

The screenshot shows an animated algebra interface. On the left, there is a 3D rendering of a multi-lane highway with cars stuck in a traffic jam. A 'Start' button is visible at the bottom of this panel. Below the rendering, the text reads: 'Find the year in which the given amount of excess fuel was consumed.' On the right, there is a data table with two columns: 'Year' and 'Excess Fuel'. The table contains the following data:

Year	Excess Fuel
1997	30
1993	31.4
1992	
	34.2
	35.6
1995	37
	38.4
1997	39.8
	41.2
1999	44
2001	

To the right of the table, the text reads: '35.6 gallons of annual excess fuel were consumed per person in the year _____?'. A yellow box is placed in the blank space. A 'Continue' button is visible at the bottom of this panel. Below the table, the text reads: 'Click on the table in order to fill in the missing information.'

Animated Algebra at classzone.com

Other animations for Chapter 5: pages 283, 303, 307, 311, 322, 327, and 335