3 Develop the Concept

Problem Solving

Exercise	Content
32	Multiplication (27 × 2) (24 × 2) (21 × 2)
33	Multiple-Step Multiplication/Addition [(7 × 0.25) + (4 × 0.10) + (17 × 0.05)]
34	Division (1,600 ÷ 400)
35	Algebraic Expressions
36	Compare Decimals
37	Algebraic Expressions
38	Algebraic Expressions
39	Communicate Math Understanding
40	Equivalent Fractions ($\frac{4}{25} = \frac{x}{75}$)
41	Algebraic Expressions
42	Algebraic Expressions

Students use underlying processes and mathematical tools for Exercises 32–42. Remind students to check for reasonableness when solving each problem.

Exercise 32
Problem-Solving Skill Draw a Table *Draw a table that will represent the situation. Think about how you can use the table to help solve the problem. What expression could you write to show what the table represents?* [2 × *n*]

Exercise 33
Test-Taking Tip Gather Information *Gather information from the text to figure out what the question is asking. Eliminate any information you don't need to help you solve the problem. What don't you need to know in order to solve the problem?* [How many pennies there are] *How much money is there in quarters?* [0.25 × 7 = $1.75] *How much money is there in dimes?* [0.10 × 4 = $0.40] *How much money is there in nickels?* [0.05 × 17 = $0.85] *What do you do with all the separate values in order to get the total value?* [Add: 1.75 + 0.40 + 0.85 = $3.00]

Problem Solving

32. Strategy Focus Use the strategy Make a Table to solve the following problem. There are 3 classrooms in the second grade. There are 24 students in Mrs. Smithfield's room, 27 students in Mr. Rodger's room, and 21 students in Miss Jones's room. Each student gets 2 tangerines for a snack. How many tangerines does each teacher need?
See margin.

33. Henry has 7 quarters, 4 dimes, 17 nickels, and 26 pennies in his bank. If he doesn't count the pennies, what is the value of his other coins?

A $2.15
B $2.60
C $3.00
D $3.26

34. A plane can travel 400 miles for each hour it flies. How long will it take you to travel approximately 1,600 miles from Oakland, California, to Beaumont, Texas?
4 hours

35. Joseph is 50 inches tall. Paul is *y* inches taller than Joseph, and 3 inches taller than Dan. Write an expression for how much taller Paul is than Joseph.
50 + *y*

36. Which number is less than 0.09?

A 0.9
B 0.1
C 0.11
D 0.01

37. Write an algebraic expression to represent the cost of a CD for *m* dollars with a $2 off coupon.
***m* − 2**

38. What is another way to write the expression $\frac{56}{n}$?
56 ÷ *n*

39. Writing to Explain Why can a variable be used to represent a number?
See margin.

40. For a science experiment, you need to mix 4 grams of baking soda for every 25 milliliters of vinegar. How many grams of baking soda do you need to do an experiment with 75 milliliters of vinegar? How did you find the answer?
See margin.

41. Think About the Process A century is a period of time that is 100 years long. Which expression can be used to find the number of years in *x* centuries?

A 100 + *x*
B 100 − *x*
C $\frac{100}{x}$
D 100*x*

42. Writing to Explain The size of the hermit crab's shell depends on the size of the crab. If a 2-inch hermit crab grows 1 inch per year, use words to describe a rule that will show how long a 2-inch crab will grow in *x* years. Study the table below. Write an expression to find how large this crab will grow in *x* years.
Sample answer: Add 2 to the number of years the crab's age is; *x* + 2

Length	2	3	4	5	6	7	8	9	10	11	12	
Number of Years	0	1	2	3	4	5	6	7	8	9	10	*x*

150

32.

Number of students (*n*)	Number of tangerines (2*n*)
24	48
27	54
21	42

39. Sample answer: A number can be substituted for the variable in an expression or equation.

40. 12 grams. I can use the equivalent fractions $\frac{4}{25} = \frac{x}{75}$, then solve for *x*.