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5-2 Problem-Solving Investigation: Act it Out - Analyze the Strategy

1. Explain how this strategy could help determine the reasonableness of your answer after the calculations were completed.

   Sample answer: If after you act it out, the answer seems reasonable compared to the solution you came up with, then it is probably correct.

2. **WRITING IN MATH** Write a problem that could be solved by using the *act it out* strategy. Then explain how you would act it out.

   Sample answer: If you had $4.65 and you had to buy items costing $1.29, $0.89, and $2.99, would you have enough money? You could use real money to act it out, or make money to represent the sales.

5-2 Problem-Solving Investigation: Act it Out - Mixed Problem Solving

Use the *act it out* strategy.

3. **RESTAURANTS** A restaurant serves a chicken entrée and a fish entrée. Each entrée comes with a choice of coffee, tea, lemonade, or water. How many entrée-beverage choices are possible? List them.

   8; chicken and coffee, chicken and tea, chicken and lemonade, chicken and water, fish and coffee, fish and tea, fish and lemonade, fish and water

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5. **TEAMS** Twenty-four students will be divided into four equal-size teams. Each student will count off, beginning with the number 1 as the first team. If Nate is the eleventh student to count off, to which team number will he be assigned?

Student's place in line	Group number
1	1
2	2
3	3
4	4
5	1
6	2
7	3
8	4
9	1
10	2
11 (Nate)	3

Nate will be in group 3.

Use any strategy to solve.
Some strategies are shown below.
PROBLEM-SOLVING STRATEGIES

- Make a table.
- Act it out.
- Make an organized list.

7. **MONEY** Tetuso bought a clock radio for $9 less than the regular price. If he paid $32, what was the regular price?

Explore: We know that he paid $32, and that this was $9 less than the original price.
Plan: The original price must be the sum of the price he paid and $9.
Solve: $32 + $9 = $41
Check: Check the answer by subtracting $32 from $41.
$41 – $32 = $9

9. **INTERNET** Cesar needs to visit three Web sites for a homework assignment. In how many ways can he visit the Web sites?

Cesar can visit the three websites in the following orders:
1, 2, 3
1, 3, 2
2, 3, 1
2, 1, 3
3, 1, 2
3, 2, 3
Cesar can visit the websites in 6 orders.

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11. **ANIMALS** Corey has one cat and one hamster. His cat weighs 9.75 pounds and his hamster weighs 1.8 pounds. About how many times more does Corey's cat weigh than his hamster?

$$9\frac{75}{100} = \frac{975}{100}$$

$$1\frac{8}{10} = \frac{18}{10} = \frac{180}{100}$$

$$\begin{array}{r} 5.41 \\ 180\overline{)975.00} \\ \underline{-900} \\ 75\ 0 \\ \underline{-720} \\ 300 \\ \underline{-180} \\ 120 \end{array}$$

$5.41 \approx 5$

The cat weighs about 5 times more than the hamster.

13. **DVDs** The table shows the cost of DVD rentals at a video store. Darren purchases a 3-night rental and gets a new release rental for half price. How much money will he have left over if he had $20 to spend originally?

DVD Rentals	
Type of Rental	**Cost**
New Release	$4.50
1-Night	$3.75
2-Night	$4.25
3-Night	$5.25

$$\begin{array}{r} 2.25 \\ 2\overline{)4.50} \\ \underline{-4} \\ 5 \\ \underline{-4} \\ 10 \\ \underline{-10} \\ 0 \end{array}$$

Add $5.25 + $2.25 = $7.50. Then subtract $20.00 − $7.50 = $12.50.

Darren will have $12.50 left.