3 Develop the Concept

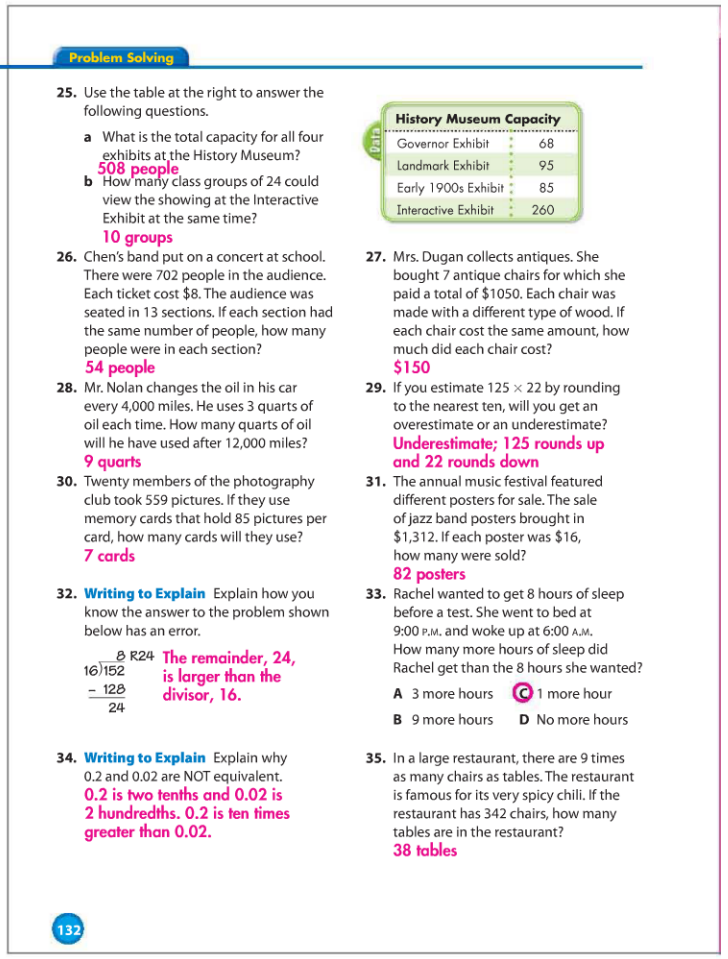
Problem Solving

Exercise	Content
25a	Addition (68 + 95 + 85 + 260)
25b	Division (260 ÷ 24)
26	Extra Information Division (702 ÷ 13)
27	Division (1,050 ÷ 7)
28	Multiple Step Division (12,000 ÷ 4,000), Multiplication (3 × 3)
29	Estimation
30	Division (559 ÷ 85) Extra Information
31	Division (1,312 ÷ 16)
32	Communicate Math Understanding Division Algorithm
33	Multiple Step (12 − 9) + (12 − 6) and (9 − 8)
34	Communicate Math Understanding Place value
35	Division (342 ÷ 9)

Students use underlying processes and mathematical tools for Exercises 25–35. Remind students to check for reasonableness when solving each problem.

Exercise 33
Test-Taking Tip: Make a Plan Remind students to use what they know about time. They may want to draw a clock face to help them compute the number of hours Rachel slept. Tell them to look for important words that will help them choose what computation method to use. ***What do the words "how many more" tell you to do?*** [Subtract]

Exercise 35
How might you write this problem using variables in an equation? [$9 \times t = c$; c represents the number of chairs and t represents the number of tables.] ***How can you solve for t?*** [$9 \times t = 342$; $t = 38$]



Problem Solving

25. Use the table at the right to answer the following questions.

a What is the total capacity for all four exhibits at the History Museum?
508 people

b How many class groups of 24 could view the showing at the Interactive Exhibit at the same time?
10 groups

History Museum Capacity	
Governor Exhibit	68
Landmark Exhibit	95
Early 1900s Exhibit	85
Interactive Exhibit	260

26. Chen's band put on a concert at school. There were 702 people in the audience. Each ticket cost $8. The audience was seated in 13 sections. If each section had the same number of people, how many people were in each section?
54 people

27. Mrs. Dugan collects antiques. She bought 7 antique chairs for which she paid a total of $1050. Each chair was made with a different type of wood. If each chair cost the same amount, how much did each chair cost?
$150

28. Mr. Nolan changes the oil in his car every 4,000 miles. He uses 3 quarts of oil each time. How many quarts of oil will he have used after 12,000 miles?
9 quarts

29. If you estimate 125 × 22 by rounding to the nearest ten, will you get an overestimate or an underestimate?
Underestimate; 125 rounds up and 22 rounds down

30. Twenty members of the photography club took 559 pictures. If they use memory cards that hold 85 pictures per card, how many cards will they use?
7 cards

31. The annual music festival featured different posters for sale. The sale of jazz band posters brought in $1,312. If each poster was $16, how many were sold?
82 posters

32. **Writing to Explain** Explain how you know the answer to the problem shown below has an error.

$$\begin{array}{r} 8 \text{ R24} \\ 16\overline{)152} \\ -\ 128 \\ \hline 24 \end{array}$$

The remainder, 24, is larger than the divisor, 16.

33. Rachel wanted to get 8 hours of sleep before a test. She went to bed at 9:00 P.M. and woke up at 6:00 A.M. How many more hours of sleep did Rachel get than the 8 hours she wanted?

A 3 more hours **C** 1 more hour
B 9 more hours **D** No more hours

34. **Writing to Explain** Explain why 0.2 and 0.02 are NOT equivalent.
0.2 is two tenths and 0.02 is 2 hundredths. 0.2 is ten times greater than 0.02.

35. In a large restaurant, there are 9 times as many chairs as tables. The restaurant is famous for its very spicy chili. If the restaurant has 342 chairs, how many tables are in the restaurant?
38 tables

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