

NAME _____

Module 2 Whole Number Operations
Lesson 5 Problem-solving Strategies

Additional Practice 2.5

Solve each problem.

1. How many four-digit palindromic numbers can be made using the digits one, two, three, and four?

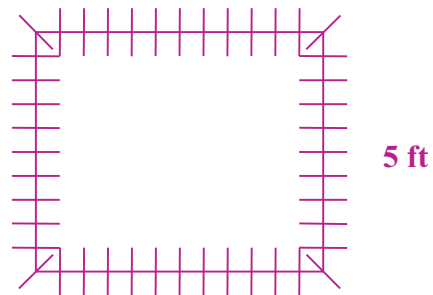
16 four-digit palindromic numbers

1111 2112 3113 4114
1221 2222 3223 4224
1331 2332 3333 4334
1441 2442 3443 4444

2. Mrs. Hatch plans to place stars around her rectangular bulletin board. The board measures six feet by five feet, and she puts a star at each corner. She also puts a star every six inches around the perimeter of the bulletin board. How many stars does Mrs. Hatch use?

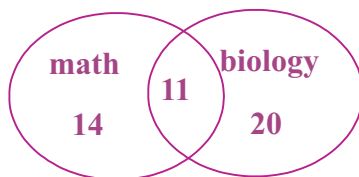
44 stars

6 ft



3. At Theresa's school, 25 students get tutored in math after school and 31 students get tutored in biology. Of those students, 11 get tutored in both math and biology. How many students get tutored in all?

45 students



4. How many different three-digit numbers can be made using the digits one, five, and nine?

27 three-digit numbers

111, 115, 119, 151, 191, 155, 199,
159, 195
555, 551, 559, 515, 595, 511, 599,
519, 591
999, 995, 991, 959, 919, 955, 911,
951, 915

Solve each problem.

5. Find the missing digits in the following multiplication problem:

$$\begin{array}{r} 2\square5 \\ \times \square \\ \hline \square, \square 30 \end{array}$$

$$\begin{array}{r} 205 \\ \times 6 \\ \hline 1,230 \end{array} \quad \text{OR} \quad \begin{array}{r} 255 \\ \times 6 \\ \hline 1,530 \end{array}$$

6. Dan separated 150 balloons into equal groups and had three left over. How many groups were there and how many balloons were in each group?

Possible answers: Seven groups of 21 balloons or 21 groups of seven balloons.

7. How many three-digit numbers can be made where five is in the tens place, the ones place, or both?

171 three-digit integers

Five is in the tens and units digits for the 19 numbers that end in: 05, 15, 25, 35, 45, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 65, 75, 85, 95.

The hundreds digit can be 1, 2, 3, 4, 5, 6, 7, 8, 9.

So, there are $9 \times 19 = 171$, three-digit numbers.

8. Jaime flips a coin and rolls a number cube numbered one to six. How many outcomes consist of the coin showing tails and the number cube showing an even number?

3 outcomes

**T1, T2, T3, T4, T5, T6
H1, H2, H3, H4, H5, H6**