$\overset{1}{1}02_3$ $2 \times 2 = 4_{10}$

$\times\ 2_3$ Convert 4_{10} to a base 3 number: $4_{10} = (1 \times 3^1) + (1 \times 3^0) = 11_3$

1_3 Write 5 and carry the 1.

$\overset{1}{1}02_3$ $(2 \times 0) + 1 = 1_3$

$\times\ 2_3$ No conversion necessary.

11_3

$\overset{1}{1}02_3$ $2 \times 1 = 2_3$

$\times\ 2_3$ No conversion necessary.

211_3

Thus, 102_3 multiplied by 2_3 is 211_3.

7.R.3 Exercises

Concept Check

True/False. Determine whether each statement is true or false. If a statement is false, explain how it can be changed so the statement will be true. (**Note:** There may be more than one acceptable change.)

1. The numbers being multiplied are called the divisors.

2. According to the multiplicative identity, $1 \cdot 25 = 52$.

3. According to the distributive property, $4 \cdot (7 + 2) = 4 \cdot 7 + 4 \cdot 2$.

4. The associative property of multiplication indicates that length can be multiplied by width or width can be multiplied by length to get the same answer.

Practice

Multiply.

5. 42×56

6. $20 \cdot 200$

Use your knowledge of the properties of multiplication to find the value of the variable that will make the statement true. State the property illustrated.

7. $(5 \cdot 10) \cdot y = 5 \cdot (10 \cdot 7)$

8. Rewrite $7(8 + 4)$ by using the distributive property then simplify.

Calculate the area of the given rectangle.

9.

Applications

Solve.

10. A group of 15 friends are gathering at a restaurant. The restaurant is having a special where each person can order a three-course meal for $35. If all 15 friends order this special, how much will the total bill going be?

11. A sandwich shop buys 372 loaves of bread for the week. If each loaf of bread has 24 slices, how many slices of bread were purchased?

Writing & Thinking

12. Explain, in your own words, what the zero-factor law indicates.

13. Name the property that uses both multiplication and addition and give an example of it.