Section 7.R.4 Division with Whole Numbers

Go to Section 7.R.4 Learn mode in Hawkes to follow along!

Division with Whole Numbers

We can use the division sign $(\div)$ to indicate the division procedure as follows.

$$\begin{array}{ccccc} 12 & \div & 4 & = & 3 \\ \updownarrow & & \updownarrow & & \updownarrow \\ \_\_\_\_\_ & \div & \_\_\_\_\_ & = & \_\_\_\_\_ \end{array}$$

Read "12 divided by 4 equals 3."

Two other notations that indicate division are the following.

$$\_\_\_\_\_ \rightarrow 4\overline{)12} \begin{array}{l} \leftarrow \_\_\_\_\_ \\ \leftarrow \_\_\_\_\_ \end{array} \quad 3 \qquad \begin{array}{l} \_\_\_\_\_ \rightarrow \\ \_\_\_\_\_ \rightarrow \end{array} \frac{12}{4} = 3 \leftarrow \_\_\_\_\_$$

Division by 1

For any number a, _____

Division of a Number by Itself

For any nonzero number a, _____

Example 1 Understanding the Basics of Division

These examples illustrate the relationship between division and multiplication.

a. $24 \div 6 = 4$ because _____

b. $26 \div 2 = 13$ because _____

c. $\frac{72}{8} = 9$ because _____

d. $\frac{35}{1} = 35$ because _____

e. $\frac{17}{17} = 1$ because _____

Exercises

Divide.

1. $5\overline{)35}$

2. $8\overline{)48}$

3. $6\overline{)72}$

4. $3\overline{)51}$

5. $240 \div 6$

6. $120 \div 4$

7. $205 \div 5$

8. $217 \div 7$

Division Involving 0

Division Involving 0

Case 1: Any nonzero whole number _____

Example: _____

Case 2: _____

Example: _____

Example 2 Understanding Division with 0

These examples illustrate several situations involving division with 0.

a. $0 \div 23 =$ ___ or $\frac{0}{23} =$ ___ or $23\overline{)0}$

(0 can be the _____)

b. $14 \div 0$ is _____ or $\frac{14}{0}$ is _____ or $0\overline{)14}$

(0 cannot be the _____)

Exercises

Divide.

9. $13\overline{)0}$

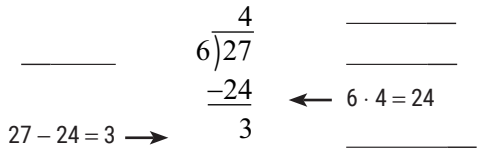
10. $42\overline{)0}$

11. $0\overline{)23}$

12. $0\overline{)51}$

Long Division

The long division process can be written in the following format.



Example 3 Dividing Whole Numbers

Divide: 683 ÷ 7

Solution

Exercises

Divide.

13 $6\overline{)32}$	**15** $7\overline{)310}$	**17** 600 ÷ 25	**19** 312 ÷ 20
14. $4\overline{)25}$	**16.** $9\overline{)800}$	**18.** 182 ÷ 13	**20.** 161 ÷ 15