Lesson 4: The Relationship of Division and Subtraction

Classwork

Exercise 1

Build subtraction equations using the indicated equations. The first example has been completed for you.

| Division Equation | Divisor Indicates the Size of the Unit | Tape Diagram | What is <i>x</i> , <i>y</i> , <i>z</i> ? |
|----------------------|---|---|---|
| $12 \div x = 4$ | 12 - x - x - x - x = 0 | 12 - 3 - 3 - 3 = 0; x = 3 units in each group | <i>x</i> = 3 |
| $18 \div x = 3$ | | | |
| $35 \div y = 5$ | | | |
| $42 \div z = 6$ | | | |

| Division Equation | Divisor Indicates the Number of Units | Tape Diagram | What is <i>x</i> , <i>y</i> , <i>z</i> ? |
|----------------------|--|----------------------------------|---|
| $12 \div x = 4$ | 12 - 4 - 4 - 4 = 0 | 12 - 4 - 4 - 4 = 0; x = 3 groups | <i>x</i> = 3 |
| $18 \div x = 3$ | | | |
| $35 \div y = 5$ | | | |
| $42 \div z = 6$ | | | |



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S.11

Exercise 2

Answer each question using what you have learned about the relationship of division and subtraction.

a. If $12 \div x = 3$, how many times would x have to be subtracted from 12 in order for the answer to be zero? What is the value of x?

b. 36 - f - f - f - f = 0. Write a division sentence for this repeated subtraction sentence. What is the value of f?

c. If $24 \div b = 12$, which number is being subtracted 12 times in order for the answer to be zero?





S.12



Problem Set

Build subtraction equations using the indicated equations.

| | Division Equation | Divisor Indicates the Size of the Unit | Tape Diagram | What is <i>x, y, z</i> ? |
|----|----------------------|---|--------------|-----------------------------|
| 1. | $24 \div x = 4$ | | | |
| 2. | $36 \div x = 6$ | | | |
| 3. | $28 \div y = 7$ | | | |
| 4. | $30 \div y = 5$ | | | |
| 5. | $16 \div z = 4$ | | | |

| | Division Equation | Divisor Indicates the Number of Units | Tape Diagram | What is <i>x</i> , <i>y</i> , <i>z</i> ? |
|----|----------------------|--|--------------|---|
| 1. | $24 \div x = 4$ | | | |
| 2. | $36 \div x = 6$ | | | |
| 3. | $28 \div y = 7$ | | | |
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