Teacher Notes.

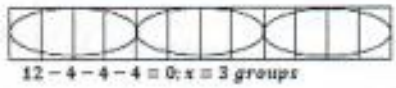
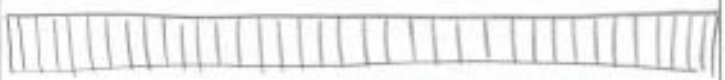
# Lesson 4: The Relationship of Division and Subtraction

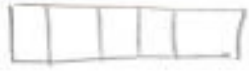
Classwork

**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 $x, y, z$? |
|---|---|---|---|
| $12 \div x = 4$ | $12 - x - x - x - x = 0$ |  12 − 3 − 3 − 3 − 3 = 0; x = 3 units in each group | $x = 3$ |
| $18 \div x = 3$ | | | |
| $35 \div y = 5$ | | | |
| $42 \div z = 6$ | | | |

| Division Equation | Divisor Indicates the Number of Units | Tape Diagram | What is $x, y, z$? |
|---|---|---|---|
| $12 \div x = 4$ | $12 - 4 - 4 - 4 = 0$ |  12 − 4 − 4 − 4 = 0; x = 3 groups | $x = 3$ |
| $18 \div x = 3$ | $18 - x - x - x = 0$ |  | $x = 6$ |
| $35 \div y = 5$ | $35 - y - y - y - y - y$ |  | $y = 7$ |
| $42 \div z = 6$ | $42 - z - z - z - z - z - z$ |  | $z = 7$ |



**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 $x$?

3, $x = 4$

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

$36 \div 4 = f$ or $36 \div f = 4$, $f = 9$

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

Two.