

Zero and One in Division



From the multiplication fact $1 \times 7 = 7$ we get two division facts:

$7 \div 1 = 7$ "If there are seven bananas and one person, the person gets 7 bananas."

$7 \div 7 = 1$ "If there are seven bananas and seven people, each person gets 1 banana."

From the multiplication fact $0 \times 7 = 0$ we get two division facts:

$0 \div 7 = 0$ "If there are zero bananas and seven people, each person gets 0 bananas."

$0 \div 0 = 7$ "If there are zero bananas and zero people, each person gets 7 bananas."

WHICH OF THE ABOVE IS WRONG???????

Dividing by ZERO does not make sense. Think about these:

$0 \div 0 = ??$ "If there are zero bananas and zero people, each person gets ?? bananas."

$5 \div 0 = ??$ "If there are five bananas and zero people, each person gets ?? bananas."

$12 \div 0 = ??$ "If there are 12 bananas and zero people, each person gets ?? bananas."

If there are zero people, then there is no sense in talking how many bananas they might get.

You might suggest that perhaps $5 \div 0 = 0$.

But that would imply that $0 \times 0 = 5$, which is not true!

1. Divide, but **CROSS OUT all the problems that are impossible!**

Think about dividing bananas between people.

a. $4 \div 1 =$ $4 \div 0 =$	b. $14 \div 14 =$ $14 \div 0 =$	c. $15 \div 1 =$ $7 \div 0 =$	d. $5 \div 5 =$ $9 \div 0 =$	e. $0 \div 5 =$ $10 \div 10 =$
f. $0 \div 1 =$ $0 \div 4 =$	g. $0 \div 14 =$ $14 \div 1 =$	h. $0 \div 0 =$ $0 \div 1 =$	i. $18 \div 18 =$ $1 \div 1 =$	j. $10 \div 0 =$ $10 \div 1 =$