

Always True, Sometimes True, or Never True?

Statements for K - ? students, crowdsourced by the math teacher twitter community (Math Twitter Blog-o-Sphere, or #MTBoS), and curated by Tracy Johnston Zager.

For ideas about how to use these statements, check out:

<http://educating-grace.blogspot.com/2014/12/always-sometimes-never.html>

<http://fawnnguyen.com/always-sometimes-never/>

<http://www.flaguide.org/cat/math/convincing/convince1.php>

<https://reflectionsintthewhy.wordpress.com/2014/09/06/always-sometimes-never/>

<https://mathmindsblog.wordpress.com/2014/12/02/always-sometimes-never-year-2-part-2/>

Geometry

A square is a rectangle.

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A rectangle has two long sides and two short sides.

All four sides of a square have the same length.

All three sides of a triangle have the same length.

Two triangles put together make a square.

Triangles have to have the point on top.

Parallelograms are slanted rectangles.

Stop signs are hexagons.

Shapes can only have straight sides.

A circle is curved, so it's not a shape.

Cubes have 8 corners and 8 faces.

Solid shapes with flat sides can't roll.

Measurement and Data

A tall glass holds more water than a short glass.

1.5 foot = 1 foot 5 inches

Something measured in centimeters is smaller than something measured in inches.

The temperature in Celsius is less than the temperature in Fahrenheit.

When you've done something for 30 minutes, the minute hand is on the 6.

2:45 is a quarter to 3:00

The perimeter of a square is equal to its area.

The area of a square is smaller than its perimeter.

The perimeter of a rectangle is bigger than the area of the same rectangle.

All shapes with the same perimeter have the same area.

All shapes with the same area have the same perimeter.

The sum of two angles is larger than a right angle.

Number and Operations in Base 10/The Number System

A number that begins with 9 is greater than a number that begins with 2.

Zero is the smallest number.

$300,70 =$ three hundred seventy

$1,010 < 1,009$

There are 3 tens in 130.

There are 13 tens in 130.

There are 7 ones in 17.

There are 29 ones in 29.

Nobody can count to infinity.

Operations and Algebraic Thinking

Subtracting means taking away.

Subtraction makes numbers smaller.

Addition makes numbers bigger.

Multiplication makes numbers bigger.

Division makes numbers smaller.

The more digits a number has, the bigger it is.

“Of” means multiply.

“In all” means add.

“Altogether” means add.

“More than” means subtract.

The equals sign ($=$) means “the answer comes next.”

When you divide, the bigger number is always divided by the smaller number.

You can’t subtract a bigger number from a smaller one.

When you add, you have to line up the numbers on the right.

You have to add the ones place first.

When you multiply by ten, you add a zero.

$52 \times 10 = 52 + 0$

You have to write remainders as decimals.

The sum of two negative numbers is a positive number.

The sum of three numbers is bigger than the sum of two numbers.

The sum of four consecutive numbers will be a multiple of four.

You can’t make fair teams with an odd number of players.

The sum of an odd number of odd numbers is odd.

When you skip count by twos you say the even numbers.

All prime numbers are odd.

All odd numbers are prime.

Odd x odd = odd

Odd x even = even

Even x even = even

Odd +/- odd = even

Odd +/- even = odd

Even +/- even = even

Even +/- 1 = odd

Odd +/- 1 = even

Odd +/- 2 = odd

Every number has an even number of factors.

Prime numbers have exactly two factors.

There is only one way to make an array of a prime number.

There is only one way to make an array of a square number.

If you add or subtract the same number to both the minuend and the subtrahend, the difference will stay the same.

When you add, you can take an amount from one addend and give it to the other without changing the sum.

When you multiply, you can take an amount from one factor and give it to the other without changing the product.

When you subtract, you can take an amount from the minuend and give it to the subtrahend without changing the difference.

When you divide, you can take an amount from the dividend and give it to the divisor without changing the quotient.

When you add a number to another number and then you subtract the number you added, you get the number you started with.

You can switch the order of addends and the sum will be the same.

You can switch the order of the subtrahend and the minuend and the difference will be the same.

You can switch the order of the multiplicand and the multiplier and the product will be the same.

You can switch the order of the dividend and the divisor and the quotient will be the same.

Any number plus zero equals zero.

Any number multiplied by zero equals zero.

Any number multiplied by one equals one.

Zero means nothing.

Any number multiplied by 1 is bigger than 1.

Any number multiplied by 2 is that number doubled.

$$5 = 3 + 2$$

$$4 + 7 = 11 + 5 = 16$$

$$42 \times 6 = (40 \times 6) + (2 \times 6)$$

$$58 + 17 = 60 + 15$$

$$99 - 35 = 100 - 36$$

$$402 = 202 + 202$$

$$4 \times 2 = 44$$

$$54 \times 26 = (50 \times 20) + (4 \times 6)$$

$$10x > 10 + x$$

$$4 \times 3 = 6 + 5 + 1$$

$$18 \times 12 = 36 \times 6$$

$$29 \times 11 = 30 \times 10$$

Operations and Algebraic Thinking: Fractions

Fractions are numbers less than one.

Fractions are between 0 and 1.

One-third is one of three pieces.

Equal-sized pieces have the same shape.

In a fraction, the number on top can't be bigger than the number on bottom.

The bigger the denominator, the bigger the pieces.

The bigger the denominator, the more you have.

Sixths are bigger than fifths.

Hundredths are bigger than tenths.

$$1.2 \times 10 = 1.20$$

$$1.05 + .8 = 1.13$$

$$\frac{1}{3} < \frac{1}{5}$$

$$\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$$

$$\frac{7}{4} = 2 - \frac{1}{4}$$

$$\frac{3}{6} > \frac{1}{2}$$

$$\frac{1}{2} + \frac{3}{4} = \frac{4}{6}$$