

## Always sometimes never

Statements that people make can generally be grouped into three different categories:

- Statement that are **ALWAYS** true;
- Statement that are **SOMETIMES** true; and
- Statement that are **NEVER** true.

The statement: “A number that is divisible by 4 is also divisible by 2” is **ALWAYS** true because 2 is a factor of 4.

The statement: “A number that is divisible by 9 is also divisible by 6” is **SOMETIMES** true. For example, 36 is divisible by 9 and by 6, but 27 is divisible by 9, but not divisible by 6.

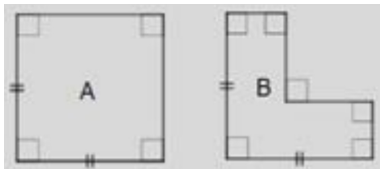
The statement: “The sum of two odd numbers is odd” is **NEVER** true because the sum of two odd numbers is always even.

1. For each statement, indicate if it is **always true**, **sometimes true** or **never true**.

- A 14-year old girl was at least once in her life half her current height.
- A 14-year old girl is taller than a 10-year old girl.

2. For each statement, indicate if it is **always true**, **sometimes true** or **never true**.

- When a whole number is multiplied by itself the answer is even.
- Doubling a whole number produces an even number.
- Halving an odd whole number produces a whole number.
- $3x + 1 = \frac{6x + 2}{2}$ .



- The perimeter of figure A is greater than the perimeter of figure B.
- If a coin is flipped 50 times it will land heads up 25 times.

3. Each of the following statement is **SOMETIMES TRUE**.

For each statement provide an example of when the statement is true and when the statement is not true.

- The person with the largest number of coins has the largest amount of money.
- $A - B = B - A$ .
- If you add the same number to the numerator (top) and the denominator (bottom) of a fraction, the fraction value increases.