

Always, Sometimes, Never?

For each of the algebraic statements in the table, decide if it will be true for all values that you substitute, just for some or never true. Be sure to try different types of numbers (positive, negative, decimal, fraction, zero?)

1 $n + 5 = 11$	2 $q + 2 = q + 16$
3 $2n + 3 = 3 + 2n$	4 $2t - 3 = 3 - 2t$
5 $3 + 2y = 5y$	6 $p + 12 = s + 12$
7 $4p > 9 + p$	8 $n + 5 < 20$
9 $2(x + 3) = 2x + 3$	10 $2(3 + s) = 6 + 2s$
11 $x^2 > 4$	12 $x^2 = 5x$
13 $x^2 > x$	14 $9x^2 = (3x)^2$

- True if $n=6$
- 2. Never
- 3. Always true
- 4. True if
- 5. True if $y=1$
- 6. True if $p = s$
- 7. True if $p>3$
- 8. True if $n <15$
- 9. Never
- 10. Always true
- 11. True if $x < -2$ or $x > 2$
- 12. True if $x=5$ or $x=0$

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13. True if $x < 0$ or $x > 1$

14. Always true

What name do we give to the statements that are always true? **Identities**