The Top 20 Language Mechanics and Number Expression Rules Used in Technical Writing

1. Use a comma before a coordinating conjunction that joins two independent clauses.
   Hint: Coordinating conjunctions are FANBOYS (for, and, nor, but, or, yet, so).
   - *We spent several hours discussing solutions to the problem**, but** we failed to decide on a course of action.*

   If a sentence contains an independent clause followed by a dependent clause, no comma is needed.
   - *The committee plans to collect the data by March **but** will not have the report completed until June.*

2. Use a comma after introductory subordinate (dependent) clauses, phrases, or words that come before the main (independent) clause.
   - ***On the basis of his recommendations,** we decided to expand our operations.*
   - ***Arriving late to class,** Olivia had trouble finding a seat.*
   - ***To find a seat in class,** I recommend you arrive five minutes early.*

3. Sentence fragments occur when subordinate (dependent) clauses are written as complete sentences. Connect subordinate (dependent) clauses to independent clauses to form a complete sentence.
   - Incorrect: The *controller provided a cost estimate. **Based on 2010 data.***
   - Correct: *The controller provided a cost estimate that was based on 2010 data.*

4. Use commas between words, phrases, or clauses that appear in a list of three or more, including a comma before the coordinating conjunction. The use of the Oxford/Serial comma **is** used in technical writing.
   - *Four popular Internet search sites are **Google, Bing, Yahoo, and Ask**.*

5. Use commas to set off words, phrases, and clauses that are non-essential to the meaning and interrupt the natural flow of the sentence. These elements may appear in the beginning, middle, or end of the sentence.
   - ***In fact,** it takes 250 years for Pluto to orbit the Sun.*
   - *You should**, nevertheless,** continue to master grammar rules.*

   Modifying words of a sentence that are essential to the meaning of the sentence are <u>not</u> set off with commas. If the modifying words are left out and the meaning of the sentence is changed, the wording is considered essential and should not be set off with commas.

   *Writers of technical information use *that* for restrictive (essential) clauses (no comma used) and *which* for non-restrictive (non-essential) clauses (comma required).
   - *The book **that you ordered yesterday** is no longer available for purchase.*
   - *Please use the credit card in my wallet, **which is on the dresser**.*

6. An appositive is a noun or noun phrase placed before or after another noun to describe, explain, rename, or identify that noun. Set off appositives with commas.
   - *Pahoehoe lava, **a textured or smooth formation**, occurs on the Kilauea volcano in Hawaii.*

7. A <u>run-on sentence</u> occurs when two independent clauses are placed together without a conjunction or punctuation mark between the clauses. A <u>comma splice</u> occurs when two independent clauses are separated with a comma. Punctuate both run-on sentences and comma splices by adding a semicolon **<u>or</u>** a comma and conjunction between the independent clauses.
   - Incorrect: *The company performed well last quarter its stock rose several points. (run-on sentence)*
   - Incorrect: *The company performed well last quarter, its stock rose several points. (comma splice)*
   - Correct: *The company performed well last **quarter; its** stock rose several points.*
   - Correct: *The company performed well last **quarter, so** its stock rose several points.*

8. Use a comma between related adjectives that precede a noun.
   - *His **direct, practical** approach has created a high degree of respect.*

9. When a transitional word (however, furthermore, consequently, therefore, moreover, etc.) joins two independent clauses, place a semicolon after the first independent clause and a comma after the transitional word **or** omit the transitional word and comma and place a semicolon between the two independent clauses.
   - *Departments will have budget increases**; therefore,** staff will receive all equipment requested. **OR***
   - *Departments will have budget **increases; staff** members will receive all equipment requested.*

10. Use commas to set off geographic names, dates (except month/day and month/year), and titles in names.
    - ***Birmingham, Alabama**, gets its name from **Birmingham, England**.*
    - ***July 22, 1959,** was a momentous day in his life.*
    - *The average temperatures for **July 1998** are the highest on record for that month.*
    - *The keynote speaker is **Rachel B. Lake, PE**.*

11. Achieve parallel structure by using the same pattern of words to improve the flow of the sentence and to show that two or more ideas (words, phrases, or clauses) have the same level of importance.
    - Incorrect: *In his free time, Fred likes to **read, hike, and watching birds**.*
    - Correct: *In his free time, Fred likes to **read, hike, and watch birds.***
    - Correct: *In his free time, Fred likes **reading, hiking, and watching birds.***

12. Add *'s* to the singular form of a noun to make it possessive.
    - *The **boy's** hat was green.*

    If adding the *'s* results in an additional "*s"* or "*z"* sound that is difficult to pronounce, simply add the apostrophe to the existing *s*.
    - ***Moses'** hat was green. **NOT   Moses's** hat was green.*

    Do not include an apostrophe when indicating a plural on capitalized numbers, symbols, and letters.
    - *The **1960s** were a time of great social unrest.*
    - *The printed page has too many **&s** on it.*
    - *There are eight **Cs** currently discussed in ENGR 3080.*

13. Avoid misplaced or dangling modifiers by placing the phrase or clause near the word it modifies.
    - Incorrect: *He bought a horse for his **sister named Prince.***
    - Correct: *He bought a horse **named Prince** for his sister.*

14. A pronoun should refer clearly to the word or words it replaces in the sentence or in a previous sentence. In technical writing, be cautious of the pronouns "*it, they, them, this, and that."* Unless the reference is obvious, it is preferred to re-state the word or words being referred to.
    - Incorrect: *Transmitting radio signals by satellite is a way of overcoming the problem of scarce airwaves and limiting how **they** are used.*
    - Correct: *Transmitting radio signals by satellite is a way of overcoming the problem of scarce airwaves and limiting how **these signals** are used.*

15. Avoid mistakes that occur when words sound alike but have different meanings or spelling (homophones). Examples include "*than/then, our/are, to/two/too, their/they're/there, principle/principal*."
    - *The weather conditions will **affect** the number of people who ski this year? (**Affect** means to influence something and acts as a verb.)*
    - *What **effect** did the loss have on the team? (**Effect** is the result of something and acts as a noun.)*

16. Use a colon after an **<u>independent clause</u>** when introducing a list.
    - *We covered three fundamentals in our technical writing class: grammar, style, and voice.*
    - *The following items are needed for the lab experiment: a measuring tape, a binder clip, and an eraser.*

17. Place periods and commas inside quotation marks.
    - *He said, "I may forget your name, but I never forget a **face."***
    - *History is stained with blood spilled in the name of **"civilization."***

    NOTE: If the quotation is a question, place the question mark inside the quotation marks.
    - *She asked her classmate, **"May I borrow your pencil?"***

18. Subjects and verbs must agree in number. If the subject represents one person or thing, the verb should be singular. If the subject represents more than one person or thing, the verb should be plural.
    - *In the past three months, a new **line** of inexpensive computers **has** been released.*
    - *In the past three months, two new **lines** of inexpensive computers **have been** released.*

19. Avoid the use of unnecessary commas. Many writers incorrectly insert commas to signify a pause in a sentence or to organize excessively long sentences. Before using a comma, know the rule that applies.

20. The following number-related rules comply to generally accepted technical writing standards. As rules may differ based on discipline, consult a discipline-specific style manual for number and unit expression.
    A. Number Expression.
    Spell out single-digit numbers zero through nine, not including measured quantities. Numbers greater than 10 are expressed numerically. If a sentence contains related numbers that are both less than 10 and greater than 10, express all numerically. Exceptions: time, dates, page numbers, percentages, money, and proportions (see 20B below).
    - *The collision damaged **seven** vehicles and injured **four** passengers.*
    - *It will take between **9** and **12** months to finish the project.*

    Spell out approximate values. HINT: look for words like "*about, almost, approximately, nearly, over*" preceding the value.
    - *Approximately **one in twenty samples** had to be discarded due to contamination.*

    Avoid starting sentences with numbers; either spell out the number or revise the sentence.
    - Incorrect: **25 engineers** *were involved in the project.*
    - Correct**: *Twenty-five engineers** were involved in the project. **OR** The project involved **25 engineers**.*

    B. Measurements.
    Measured quantities involving decimal points, dimensions, degrees, distances, weights, measures, time, and sums of money should be expressed in numerical form, even if they are less than 10.

    - *8 cm*
    - *3 percent or 3%*
    - *Factor of 2*
    - *Chapter 2, Vol. 3, No. 7, Figure 4, Page 19*
    - *7 seconds, 3 minutes 2.5 hours*
    - *$0.26 per unit, $1.1 million, $45*

    C. Units.
    If an exact number is followed by a unit of measurement, abbreviate the unit. Leave one space between the number and the unit. If the number is an approximation, spell out the unit. NOTE: A period is often included after the abbreviation for *inch (in.)* to differentiate from the <u>preposition *in*</u>.
    - *The heat transfer surface of the cylinder was covered with **25 mm** of insulation.*

- *A single lightning bolt contains **over a billion** watts.*

Symbols for units are written in the singular form.
- *There are 1000 **mm** in 1 L.*   ***NOT***   *There are 1000 **mms** in 1 L.*

If the unit of measurement is named for a person, the unit is capitalized. NOTE: Some exceptions include °C, °F, K, L).
- *The strength of an average solar sunspot is equal to **0.3 T**.*

Spell out the unit when using it in a non-numerical context; <u>all</u> units have a lower-case first letter when written out (even if they are named for a person).
- *A **tesla** is a unit of measurement of the strength of a magnetic field.*

Write secondary/converted units in parentheses after primary units.
- Install a 2 in. **(5.08 cm)** rod.

D. Fractions and Decimals.
Isolated fractions in the text should be spelled out unless the fractions are long and complicated.
- *The formula called for **one-half** of the amount.*
- *Only **18/25** of the mixture was used.*

When the precise value of a fraction is required, use the decimal form.
- *The technician added **0.5 L** to the mixture.*

For numbers less than 1.0, insert a zero to the left of the decimal point.
- *0.47 **not** .47*

E. Adjacent Numbers.
With two adjacent numbers, the first number is typically spelled out unless the second number is shorter when spelled out.
- *The technician ordered **twelve 26-in.** pieces.*

A modern and consistent approach is to retain the number that goes with the unit and spell out the other number.
- *The solution was divided into **four 250-mL** flasks.*

F. Scientific Notation.
Use scientific notation for very large or very small numbers.
- *Example:* For the number 5,000,000, write **5×10^6**.
- *Example:* For the number 0.000005, write **5×10^{-6}**.

NOTE: By SI convention, commas are omitted from numbers greater than three digits. Numbers of **at least five digits** on either side of the decimal point may be separated into groups of three using a thin, fixed space.
- Incorrect: 15739.01253
- Incorrect: 15,739.012 53
- Correct: 15 739.012 53