

GRE Formula and Strategy Guide

The GRE's three measures: Quantitative Reasoning, Verbal Reasoning, and Analytical Writing — with the setup and decision rules each question type rewards under a section-adaptive, timed test.

SECTIONS	4	WORKED EXAMPLES	0	FORMAT	Print friendly
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How to use this guide

A formula you cannot place is not knowledge yet. Work the recall drill below before the questions.

- Quant mistakes usually come from a misread setup, not a missing formula — restate what is actually being asked before computing.
- Verbal questions reward logical structure (contrast words, cause-effect signals) more than a memorized word list.
- For quantitative comparison questions, test more than one type of number (negative, fraction, zero) before selecting an answer.

1. Quantitative Reasoning: arithmetic and algebra

NAME	FORMULA	WHEN TO USE
Percent change	$(\text{new} - \text{old}) / \text{old} \times 100\%$	Describing an increase or decrease as a percent.
Solving a linear equation	isolate the variable with inverse operations	A single unknown in a linear relationship.
Exponent rules	$a^m \times a^n = a^{m+n}$, $(a^m)^n = a^{mn}$	Simplifying an expression with exponents.
Quantitative comparison	test at least one negative, one fraction, and zero before deciding	Comparing Quantity A and Quantity B without a single fixed value.

2. Quantitative Reasoning: geometry and data

NAME	FORMULA	WHEN TO USE
Pythagorean theorem	$a^2 + b^2 = c^2$	A right triangle's missing side.
Circle formulas	circumference = $2 \times \pi \times r$, area = $\pi \times r^2$	Working with circles.
Mean, median, standard deviation	sum/count; middle value; spread around the mean	Summarizing or comparing data sets.
Combinations and permutations	$nCr = n! / (r!(n-r)!)$ when order doesn't matter; $nPr = n! / (n-r)!$ when it does	Counting arrangements or selections.

3. Verbal Reasoning

NAME	FORMULA	WHEN TO USE
Text completion	identify the logical signal word (contrast, cause, continuation) before choosing	One or more blanks in a passage.
Sentence equivalence	both correct choices must produce the SAME meaning	Two blanks selected from six choices, exactly two correct.
Reading comprehension	the answer must be directly supported by the passage, not merely plausible	A short passage followed by an inference or main-idea question.

4. Analytical Writing

NAME	FORMULA	WHEN TO USE
Issue task	take a clear position and qualify it with specific conditions	Responding to a general claim or policy statement.
Argument task	identify unstated assumptions in the given argument, not your own opinion on the topic	Critiquing the logic of a presented argument.

Notes and tutor hand-off

Bring this page to your next session so the tutor can start from what actually blocked you.

Which measure (Quant, Verbal, Writing) needs more timed practice?

One quantitative comparison trap that caught you (assuming a positive number, forgetting zero, etc.):

Worksheet question numbers to review with a tutor:
