Achievable

GRE DUMP SHEET

Quantitative Reasoning strategies

Quantitative comparison: the same four choices every time

	The choice	Choose it when
A	Quantity A is greater	A is greater in **every** case the given conditions allow
B	Quantity B is greater	B is greater in every case; **don't reverse A and B**
C	The two quantities are equal	They are equal in every case
D	The relationship cannot be determined from the information given	Two allowed cases give **different** relationships; **never** when both quantities can be computed

The other formats

- **One answer** (5 ovals): the answer is there; if yours isn't, reread and recheck
- **Select one or more** (squares): test **every** choice; there may be only one right
- **Numeric entry:** check **units** and **percent vs. decimal**; round only the final answer, only if told
- **Data interpretation:** scan the display, then read the **axes, scales, units and notes**; most ask a **percent change** or a **percent of a whole**
- **Geometric figures** are not necessarily drawn to scale; **charts and coordinate grids** are

Plug and play

- **Variables in the choices:** pick **easy, different** numbers (**100** for percents), solve, and check **every** choice; if two match, try new numbers
- c crashes every d days, $p\%$ recorded: $c = 2, d = 1, p = 50$ gives 2 in $2d$ days, and only $\frac{2cp}{100} = 2$
- **QC:** try values the condition allows: **0, 1, negatives, fractions, large numbers**
- $x > 0$: $\frac{x^4}{3^4}$ vs. $\frac{4^3}{3^x}$. $x = 1$: B is greater; $x = 5$: $\frac{625}{81}$ vs. $\frac{64}{243}$, A is. Conflict: **D**

Backsolving and using the answers

- Numeric choices almost always run in **ascending order**: test **B** first
- B **too large**: the answer is **A**; **too small**: test **D**: too small means **E**, too large **C**
- Twice z, raised 50%, less 5, is 55: B (15) gives 40, D (18) gives 49, so **E (20)**
- **Match the choices' form**; π in every choice means a circle formula, so keep π
- **QB is 0?** Only the **sign** of QA matters; QB is often set **close** to QA

Simplify and compare (QC)

- **Make them look alike:** $x < 0$: $(x - 3)(x + 4) = x^2 + x - 12$ vs. $x^2 - 12$: the extra x is negative, so **B**
- **Do the same to both:** add, subtract, multiply or divide them by the same amount
- Multiply or divide **only by a positive**: never by a negative, or a variable that might be one
- **Cancel what they share:** sum of 4 to 18 vs. 8 to 19 is 4 + 5 + 6 + 7 = 22 vs. 19: **A**

Minimum and maximum extremes

- **QC, a range vs. a number:** both extremes above the number: **A**; both below: **B**; both equal: **C**; it lies **between** them or equals just one: **D**
- Square, perimeter a two-digit multiple of 4, vs. 600: the **largest** area is $24^2 = 576$: **B**
- **Select one or more:** choose every choice **inside** the range; read "more than" vs. "at least" at the edges
- **Gotcha:** not every value in a range is reachable: 5 coins of 1¢ and 25¢ can't make 6¢

Misleading questions and traps

- **QC with information missing** is usually **D**: an average with no sum or count, a percent change with no original, a line's intercept from one point; but a known **range** may still decide it
- $(-3)^2 = 9$ but $-3^2 = -9$; $0.5\% = 0.005$
- A value that makes an expression **undefined** is a likely trap choice
- Add probabilities **only** when the events can't happen together

Time and the calculator

- About **1 min 45 s** a question; near **3 minutes** with no progress: **guess, mark, move on**; QC's default guess is **D**
- **Name the strategy** before you calculate; don't sink time into the hardest
- The calculator follows the **order of operations** ($1 + 2 \times 4 = 9$), shows **8 digits**, and has one memory
- Simplify first, estimate the result, then use it for long division, roots and many-digit arithmetic