

GRE Sample Paper 04

A) Test Components: Analytical Writing — Verbal Reasoning — Quantitative Reasoning

B) Total Questions: 108 Questions

C) Total Time Allowed: 3 Hours 45 Minutes

- **Analytical Writing:** 2 Essays — 60 Minutes
- **Verbal Reasoning:** 2 Sections — 82 Minutes Total
- **Quantitative Reasoning:** 2 Sections — 94 Minutes Total

D) Marking Scheme:

- **Correct Answer:** +1 Point
- **Incorrect/Unattempted:** 0 Points (No Negative Marking)
- **Multi-blank/Equivalence:** No partial credit.

SECTION I: ANALYTICAL WRITING

1. Analyze an Issue (30 Minutes)

"The effectiveness of a leader is best measured by their ability to reach a compromise, rather than by their commitment to a single, unwavering vision."

2. Analyze an Argument (30 Minutes)

The following appeared in a memo from the director of the Regal Cinema movie theater chain.

"A recent survey conducted in our busiest location, the downtown Metroplex, indicated that 80 percent of moviegoers are interested in seeing more 'classic' films from the 1950s and 60s. Furthermore, sales of popcorn and soda at that location reached an all-time high last month. To capitalize on this trend and boost our corporate profits, Regal Cinema should immediately replace the current blockbuster schedule in all fifty of our theaters with a schedule consisting primarily of classic films. This shift will undoubtedly lead to higher attendance and a significant increase in high-margin concessions sales across the entire chain."

SECTION II: VERBAL REASONING - PART 1

Q1. Despite the politician's attempt to appear relatable, his speech was filled with _____ that felt rehearsed and insincere to the cynical audience.

- A. Nuances
- B. Platitudes
- C. Aphorisms
- D. Invectives

Q2. The museum curator was known for being _____; she spent weeks verifying the provenance of a single ceramic shard before allowing it to be displayed.

- A. Punctilious
- B. Slovenly
- C. Perfunctory
- D. Impetuous

Q3. The scientific community initially viewed the researcher's claims as (i) _____, but after several independent laboratories replicated the results, the discovery was hailed as a (ii) _____ in modern physics.

- A. (i) Specious; (ii) Paradigm shift
- B. (i) Veracious; (ii) Anomaly
- C. (i) Specious; (ii) Cul-de-sac
- D. (i) Irrelevant; (ii) Paradigm shift

Q4. While the author's earlier works were praised for their (i) _____ and clarity, her recent novel is so (ii) _____ that even her most devoted fans have struggled to follow the plot.

- A. (i) Brevity; (ii) Pellucid
- B. (i) Lucidity; (ii) Convolutated
- C. (i) Erudition; (ii) Lucid
- D. (i) Lucidity; (ii) Terse

Q5. The passage implies that the "Urban Heat Island" effect:

- A. Is caused primarily by the lack of air conditioning in older buildings.

- B. Can be significantly mitigated by increasing the albedo of urban surfaces.
- C. Has no measurable impact on the surrounding rural environments.
- D. Is a phenomenon that only occurs during the peak of the summer months.

Q6. According to the passage, the "Albedo Effect" refers to:

- A. The process by which dark surfaces absorb and radiate solar energy as heat.
- B. The amount of vegetation required to oxygenate a city center.
- C. The ability of a surface to reflect sunlight back into the atmosphere.
- D. The measurement of humidity levels in densely populated areas.

Q7. The author mentions "white-painted roofs" primarily to:

- A. Contrast modern architectural styles with traditional building methods.
- B. Highlight an aesthetic trend in Mediterranean urban planning.
- C. Provide a cost-effective example of a strategy to lower city temperatures.
- D. Explain why certain cities are more visible from satellite imagery.

Q8. The elderly neighbor was famously _____, often scolding local children for simply walking too close to his carefully manicured lawn.

- A. Cantankerous and Irascible
- B. Affable and Genial
- C. Stoic and Unmoved
- D. Magnanimous

Q9. The CEO's response to the crisis was notably _____, consisting of a single-sentence email that left the employees more confused than before.

- A. Laconic and Terse
- B. Garrulous and Verbose
- C. Ambivalent
- D. Eloquence

Q10. A company installed standing desks to improve employee health. However, after three months, the company reported a significant increase in the number of sick days taken for lower-back pain. Which of the following most likely explains this outcome?

- A. Employees spent more time talking to one another while standing.

- B. The company did not provide ergonomic mats to cushion the hard floors.
- C. Standing desks are generally more expensive than traditional desks.
- D. The employees reported feeling more alert during the first week of use.

Q11. Choose the sentence that correctly uses "between" vs "among":

- A. The secret was shared among the two brothers.
- B. The inheritance was divided among the five surviving cousins.
- C. There is a great deal of animosity among the two rival teams.
- D. The negotiator stood among the two warring factions.

Q12. In the sentence "The professor gave the study a qualified recommendation," the word "qualified" most nearly means:

- A. Highly capable and professional
- B. Limited or subject to conditions
- C. Enthusiastic and wholehearted
- D. Based on extensive experience

SECTION III: VERBAL REASONING - PART 2

Q1. The Renaissance was (i) _____ by a (ii) _____ of classical knowledge, which (iii) _____ the artistic and scientific landscape of Europe.

- A. (i) Characterized; (ii) Resurgence; (iii) Transformed
- B. (i) Hindered; (ii) Decline; (iii) Stagnated
- C. (i) Characterized; (ii) Dearth; (iii) Transformed
- D. (i) Ignored; (ii) Resurgence; (iii) Weakened

Q2. The poet's imagery was (i) _____, but the (ii) _____ structure of the sonnets made them difficult for modern readers to appreciate.

- A. (i) Vivid; (ii) Archaic
- B. (i) Dull; (ii) Modern
- C. (i) Vivid; (ii) Contemporary
- D. (i) Obscure; (ii) Archaic

Q3. To the critics, the sculpture seemed (i) _____, but the artist insisted that the (ii) _____ appearance was a deliberate commentary on the decay of urban life.

- A. (i) Grotesque; (ii) Unattractive
- B. (i) Beautiful; (ii) Polished
- C. (i) Grotesque; (ii) Exquisite
- D. (i) Simple; (ii) Unattractive

Q4. The historian found the archive (i) _____, but the (ii) _____ condition of the documents required her to use extreme caution while handling them.

- A. (i) Invaluable; (ii) Dilapidated
- B. (i) Useless; (ii) Pristine
- C. (i) Invaluable; (ii) Sturdy
- D. (i) Common; (ii) Dilapidated

Q5. The king's reputation for _____ was well-earned; he spent vast sums on extravagant palaces while his subjects lived in poverty.

- A. Munificence
- B. Profligacy
- C. Frugality
- D. Parsimony

Q6. The museum's collection was so _____ that it included artifacts from every major civilization in human history.

- A. Comprehensive
- B. Limited
- C. Parochial
- D. Narrow

Q7. According to the passage, the primary influence on Gothic architecture was:

- A. The geometric simplicity of Roman temples.
- B. The desire to create verticality and light through pointed arches.
- C. The need for fortified structures during the Crusades.
- D. The use of mud-brick materials in Northern Europe.

Q8. The author mentions "Flying Buttresses" to:

- A. Explain the engineering innovation that allowed for thinner walls and larger windows.
- B. Argue that Gothic cathedrals were structurally unstable.
- C. Highlight the aesthetic beauty of external stone carvings.
- D. Contrast European designs with those found in the Middle East.

Q9. Which of the following best expresses the "spiritual intent" of the Gothic style?

- A. The height of the nave was meant to draw the viewer's gaze toward the heavens.
- B. The dark interiors were designed to encourage silent meditation.
- C. The use of gargoyles was intended to terrify the local population.
- D. The stained glass windows were used to teach history to the literate.

Q10. A study shows that students who study with music score higher on exams. However, the study also found that these students generally had higher IQs before the study began. Which weakens the argument that music improves study performance?

- A. Classical music is more effective than pop music for concentration.
- B. High-IQ students are more likely to perform well regardless of their study habits.
- C. The music played during the study was instrumental.
- D. Most students reported feeling more relaxed while listening to music.

Q11. The speaker's voice was _____, making it difficult for the audience in the back of the hall to hear his presentation.

- A. Faint and Feeble
- B. Resonant and Sonorous
- C. Stentorian
- D. Boisterous

Q12. The old law was _____, having been written for a society that no longer exists.

- A. Archaic and Obsolete
- B. Current and Contemporary
- C. Vibrant
- D. Relevant

Q13. The new employee was _____, working long hours and taking on extra projects without being asked.

- A. Assiduous and Diligent
- B. Indolent and Slothful
- C. Apathetic
- D. Lethargic

Q14. The mountain range was _____, with jagged peaks that reached high into the clouds.

- A. Formidable and Daunting
- B. Inviting and Approachable
- C. Mundane
- D. Uninspiring

Q15. The comedian's wit was _____, often poking fun at the absurdities of daily life in a way that was both sharp and insightful.

- A. Piquant and Pungent
- B. Dull and Insipid
- C. Banal
- D. Vapid

SECTION IV: QUANTITATIVE REASONING - PART 1

Q1. The price of an asset increased by 25%, and then the new price decreased by 20%.

Quantity A	Quantity B
The final price of the asset	The original price of the asset

- A. Quantity A is greater.
- B. Quantity B is greater.
- C. The two quantities are equal.
- D. The relationship cannot be determined from the information given.

Q2. The product of two consecutive positive integers is 600. What is the sum of these two integers?

- A. 47
- B. 49
- C. 51
- D. 53
- E. 55

Q3. The area of circle X is 36π and the circumference of circle Y is 12π .

Quantity A	Quantity B
The radius of circle X	The radius of circle Y

- A. Quantity A is greater.
- B. Quantity B is greater.
- C. The two quantities are equal.
- D. The relationship cannot be determined from the information given.

Q4. $x < 0$

Quantity A	Quantity B
$x^2 + x^4$	$x^3 + x^5$

- A. Quantity A is greater.
- B. Quantity B is greater.
- C. The two quantities are equal.
- D. The relationship cannot be determined from the information given.

Q5. If $\frac{2x}{3} - 4 = \frac{x}{2} + 1$, then $x =$

- A. 10
- B. 15
- C. 20
- D. 30
- E. 60

Q6. The average of 7 consecutive integers is 12. What is the sum of the largest and smallest of these integers?

- A. 12

B. 18

C. 24

D. 28

E. 32

Q7. A drawer contains 5 pairs of socks, each pair a different color. If 2 socks are chosen at random without replacement, what is the probability that they will be a matching pair?

A. $\frac{1}{10}$

B. $\frac{1}{9}$

C. $\frac{1}{5}$

D. $\frac{2}{9}$

E. $\frac{1}{2}$

Q8. A rectangular box has dimensions 3, 4, and 12. What is the length of the longest straight line that can be drawn between two vertices of the box?

A. 5

B. 13

C. 15

D. 17

E. 19

Q9. If n is an integer and n^2 is divisible by 72, which of the following must be a divisor of n ? (Select all that apply)

☐ 6

☐ 12

☐ 18

Q10. A machine fills 150 bottles in 20 minutes. At this constant rate, how many bottles can the machine fill in 1.5 hours?

Q11. If $9^{x-1} = 27^{x-2}$, then $x =$

A. 2

B. 3

C. 4

D. 5

E. 6

Q12. The average of a set of 10 numbers is 14. If two numbers, 20 and 30, are removed from the set, what is the average of the remaining 8 numbers?

SECTION V: QUANTITATIVE REASONING - PART 2

Q1. $x > y > 1$

Quantity A	Quantity B
x^y	y^x

- A. Quantity A is greater.
- B. Quantity B is greater.
- C. The two quantities are equal.
- D. The relationship cannot be determined from the information given.

Q2. n is a positive integer divisible by 6.

Quantity A	Quantity B
The remainder when n is divided by 4	The remainder when n is divided by 3

- A. Quantity A is greater.
- B. Quantity B is greater.
- C. The two quantities are equal.
- D. The relationship cannot be determined from the information given.

Q3. Set A : {5, 10, 15, 20, 25} and Set B : {105, 110, 115, 120, 125}

Quantity A	Quantity B
The standard deviation of Set A	The standard deviation of Set B

- A. Quantity A is greater.
- B. Quantity B is greater.
- C. The two quantities are equal.
- D. The relationship cannot be determined from the information given.

Q4. If the price of gasoline increases by 25%, by what percentage must a driver decrease their consumption to keep the total expenditure the same?

- A. 10%
- B. 20%
- C. 25%
- D. 33.3%
- E. 40%

Q5. Machine A produces 100 bolts in 2 hours. Machine B produces 100 bolts in 3 hours. How many minutes will it take for both machines working together to produce 100 bolts?

- A. 60
- B. 72
- C. 75
- D. 80
- E. 120

Data Interpretation: Expenditure of Department Z (Fiscal Year 2022)

Category	Q1 Expenditure (\$)	Q2 Expenditure (\$)
Salaries	450,000	460,000
Research	120,000	180,000
Equipment	80,000	60,000
Marketing	50,000	100,000

Q6. Which category experienced the greatest percentage increase in expenditure from Q1 to Q2?

- A. Salaries
- B. Research
- C. Equipment
- D. Marketing
- E. None of the above

Q7. In Q2, Research expenditure accounted for approximately what fraction of the total expenditure for that quarter?

- A. $\frac{1}{8}$
- B. $\frac{1}{6}$

C. $1/4$ D. $1/3$ E. $1/2$

Q8. What was the total expenditure for Department Z in the first half of the year (Q1 + Q2)?

Q9. A circle is inscribed in a square with a side length of 10. What is the area of the region inside the square but outside the circle?

A. $100 - 10\pi$ B. $100 - 25\pi$ C. 25π D. 50π E. $100\pi - 100$

Q10. If $a \diamond b = ab + a + b$, and $x \diamond 3 = 19$, what is the value of x ?

Q11. A jar contains only quarters (\$0.25) and dimes (\$0.10). If the total value of the 20 coins in the jar is \$3.35, how many quarters are in the jar?

A. 7

B. 9

C. 11

D. 13

E. 15

Q12. k is the slope of the line that is perpendicular to the line $3x - 4y = 12$.

Quantity A	Quantity B
k	-1.33

A. Quantity A is greater.

B. Quantity B is greater.

C. The two quantities are equal.

D. The relationship cannot be determined from the information given.

Q13. How many integers between 101 and 199 are divisible by 4 but not by 8?

- A. 6
- B. 12
- C. 13
- D. 24
- E. 25

Q14. A function is defined as $f(x) = |x - 5|$. For which of the following values of x is $f(x) = f(x + 2)$?

- A. 3
- B. 4
- C. 5
- D. 6
- E. 7

Q15. In a group of 80 people, 50 speak English, 40 speak Spanish, and 10 speak neither. How many people speak both English and Spanish?

Solutions - Verbal Reasoning Section I

1. **(B)** The sentence describes a speech that felt "rehearsed and insincere" despite an attempt to be relatable. "Platitudes" are clichéd or trite remarks that often sound hollow or insincere in a formal speech.
2. **(A)** The curator's habit of spending weeks verifying a single small shard of ceramic indicates an extreme attention to detail and correctness. "Punctilious" means showing great attention to detail or correct behavior.
3. **(A)** For blank (i), "specious" means superficially plausible but actually wrong, fitting the "initial" skeptical view. For blank (ii), "paradigm shift" describes a fundamental change in approach or underlying assumptions, which matches a "discovery hailed in modern physics."
4. **(B)** The word "While" establishes a contrast. The earlier works were noted for "lucidity" (clarity), whereas the recent novel is "convoluted" (extremely complex and difficult to follow), making the plot hard to understand.
5. **(B)** The passage discusses the Urban Heat Island effect and suggests that it can be "significantly mitigated by increasing the albedo." Albedo refers to reflectivity; reflecting more heat away reduces the "island" effect.
6. **(C)** The passage defines the "Albedo Effect" as the measure of how much solar energy is reflected by a surface. Higher albedo means a greater "ability of a surface to reflect sunlight."
7. **(C)** "White-painted roofs" have a high albedo. The author mentions them as a "cost-effective example" of how cities can use simple materials to reflect sunlight and lower overall urban temperatures.
8. **(A)** The act of "scolding local children" for minor reasons describes someone who is grumpy and easily annoyed. "Cantankerous" and "irascible" are synonyms for being bad-tempered and irritable.
9. **(A)** A "single-sentence email" used to respond to a major crisis is extremely brief. "Laconic" and "terse" both describe a style of speaking or writing that uses very few words, often to the point of being blunt.
10. **(B)** The study suggests that standing desks cause back pain. However, if the company "did not provide ergonomic mats," the pain might be caused by standing on hard floors rather than the desks themselves. This provides an alternative explanation, weakening the original conclusion.
11. **(B)** Grammatically, "between" is used for two items, while "among" is used for three or more. Option (B) correctly uses "among" for "five surviving cousins."
12. **(B)** In a GRE context, "qualified" often means "not absolute." A "qualified recommendation" is one that is "limited or subject to conditions" rather than being a full, unconditional endorsement.

Solutions - Verbal Reasoning Section II

1. (A) For blank (i), "characterized" describes the nature of the era. For blank (ii), "resurgence" fits the return of classical knowledge. For blank (iii), "transformed" describes the massive change that followed in arts and science.
2. (A) The word "but" signals a contrast. The imagery was "vivid" (powerful), but the structure was "archaic" (ancient/outdated), making it hard for modern readers to relate to the form.
3. (A) The contrast "but the artist insisted" suggests two different views of the same thing. Critics saw it as "grotesque" (ugly/distorted), while the artist claimed this "unattractive" look was a deliberate social commentary.
4. (A) The word "but" indicates a contrast between value and state. The archive was "invaluable" (extremely useful), but its "dilapidated" (falling apart) condition made handling it risky.
5. (B) Spending "vast sums on extravagant palaces" while the population is in poverty is the definition of "profligacy" (reckless extravagance or wastefulness).
6. (A) A collection that includes artifacts from "every major civilization in human history" is "comprehensive," meaning all-inclusive or covering nearly everything.
7. (B) Gothic architecture moved away from thick Romanesque walls toward a "desire to create verticality and light." Pointed arches and ribbed vaults were the primary tools used to achieve this height and illumination.
8. (A) "Flying Buttresses" were external supports. By carrying the weight of the roof away from the walls, they allowed for "thinner walls and larger windows," which was the core engineering goal.
9. (A) Gothic architecture used extreme height to create a sense of awe. The "height of the nave" was a physical metaphor meant to "draw the viewer's gaze toward the heavens."
10. (B) The argument claims music causes higher scores. However, if those students "generally had higher IQs" before the music was introduced, then their intelligence, not the music, is likely the cause of the higher scores.
11. (A) A voice that is "difficult to hear" in a large hall is "faint" and "feeble." Both words create synonymous sentences describing a lack of volume or strength.
12. (A) A law written for a "society that no longer exists" is "archaic" and "obsolete," both of which mean belonging to an earlier period and no longer in use.
13. (A) An employee who works "long hours" and takes on "extra projects without being asked" is showing great effort. "Assiduous" and "diligent" both mean showing great care and perseverance.
14. (A) "Jagged peaks that reached high into the clouds" describe a range that is "formidable" and "daunting," both meaning difficult to overcome or intimidating.

15. (A) Wit that is "sharp and insightful" is "piquant" and "pungent." In a metaphorical sense, both words describe something that is stimulating, sharp, and biting in a clever way.

Solutions - Quantitative Reasoning Section I

- (C) Let original price be 100. Increase by 25% $\rightarrow$ 125. Decrease 125 by 20%:
 $125 - 0.20(125) = 125 - 25 = 100$. Since $100 = 100$, the quantities are equal.
- (B) Let integers be x and $x + 1$. $x(x + 1) = 600 \Rightarrow x^2 + x - 600 = 0 \Rightarrow (x + 25)(x - 24) = 0$. Since they are positive, $x = 24$. The integers are 24 and 25. Sum = 49.
- (C) Circle X: Area $\pi r^2 = 36\pi \Rightarrow r = 6$. Circle Y: Circumference $2\pi r = 12\pi \Rightarrow r = 6$. The quantities are equal.
- (A) Since $x < 0$, x^2 and x^4 are positive, so Quantity A is positive. However, x^3 and x^5 are negative, so Quantity B is negative. A positive number is always greater than a negative number.
- (D) $\frac{2x}{3} - \frac{x}{2} = 5 \Rightarrow \frac{4x-3x}{6} = 5 \Rightarrow \frac{x}{6} = 5 \Rightarrow x = 30$.
- (C) The average of an odd number of consecutive integers is the middle term. The 4th term is 12. The sequence is 9, 10, 11, 12, 13, 14, 15. Sum of smallest and largest = $9 + 15 = 24$.
- (B) Total socks = 10. The first sock can be any color (10/10). To match it, the second sock must be the one specific sock remaining of that color out of 9 total remaining socks. Probability = $1/9$.
- (B) The longest straight line is the space diagonal: $d = \sqrt{l^2 + w^2 + h^2} = \sqrt{3^2 + 4^2 + 12^2} = \sqrt{9 + 16 + 144} = \sqrt{169} = 13$.
- (A, B) n^2 is divisible by $72(2^3 \times 3^2)$. For n^2 to be a perfect square, its prime factors must have even exponents, so n^2 must at least be a multiple of $144(2^4 \times 3^2)$. Thus, n must be a multiple of $12(2^2 \times 3)$. Multiples of 12 are always divisible by 6 and 12.
- 675** Rate = $150/20 = 7.5$ bottles/min. In 1.5 hours (90 minutes), the machine fills $7.5 \times 90 = 675$ bottles.
- (C) $3^{2(x-1)} = 3^{3(x-2)} \Rightarrow 2x - 2 = 3x - 6 \Rightarrow x = 4$.
- 11.25** Sum of 10 numbers = $14 \times 10 = 140$. New sum = $140 - 20 - 30 = 90$. New average = $90/8 = 11.25$.

Solutions - Quantitative Reasoning Section II

1. **(D)** If $x = 4, y = 2$, then $4^2 = 16$ and $2^4 = 16$ (Equal). If $x = 3, y = 2$, then $3^2 = 9$ and $2^3 = 8$ (Quantity A greater). The relationship is inconsistent.
2. **(D)** If $n = 6$, Remainder $A = 2, B = 0$ (A greater). If $n = 12$, Remainder $A = 0, B = 0$ (Equal). The relationship cannot be determined.
3. **(C)** Standard deviation measures the spread of data. Since the values in Set B are simply the values in Set A shifted by 100, the distance between the numbers remains identical.
4. **(B)** Let price be P and consumption be C . $1.25P \times C_{new} = P \times C_{old} \Rightarrow C_{new} = C_{old}/1.25 = 0.8C_{old}$. This is a 20% decrease.
5. **(B)** Rate A = 100/120 bolts/min; Rate B = 100/180 bolts/min. Combined Rate = $5/6 + 5/9 = 25/18$ bolts/min. Time for 100 bolts = $100/(25/18) = 72$ minutes.
6. **(D)** Marketing increased from \$50k to \$100k (100% increase). Research increased by 50%. Others were less or decreased.
7. **(C)** Total Q2 = $460 + 180 + 60 + 100 = 800$. Research fraction = $180/800 = 9/40 = 0.225$. This is approximately $1/4$ (0.25).
8. **1,500,000** Q1 Total = $450 + 120 + 80 + 50 = 700k$. Q2 Total = $800k$. Total = 1,500,000.
9. **(B)** Area of Square = $10^2 = 100$. Circle radius = 5, so Area = 25π . Shaded area = $100 - 25\pi$.
10. $4x(3) + x + 3 = 19 \Rightarrow 4x + 3 = 19 \Rightarrow 4x = 16 \Rightarrow x = 4$.
11. **(B)** $0.25Q + 0.10(20 - Q) = 3.35 \Rightarrow 0.15Q + 2 = 3.35 \Rightarrow 0.15Q = 1.35 \Rightarrow Q = 9$.
12. **(C)** $4y = 3x - 12 \Rightarrow y = 0.75x - 3$. Slope = 0.75. Perpendicular slope $k = -1/0.75 = -4/3 \approx -1.33$.
13. **(B)** Multiples of 4: 104, 108, ..., 196 (24 numbers). Multiples of 8: 104, 112, ..., 192 (12 numbers). $24 - 12 = 12$.
14. **(B)** $|x - 5| = |(x + 2) - 5| \Rightarrow |x - 5| = |x - 3|$. The point equidistant from 5 and 3 is 4.
15. **20** Total speaking English or Spanish = $80 - 10 = 70$. Both = $(50 + 40) - 70 = 20$.