

GRE Inequalities



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GRE Structure

Skills	Sections	Duration	Scores
Analytical Writing	2 Essays Issue and Argument	30 minutes each	0-6 points
Verbal Reasoning	2 sections 20 questions/section	30 minutes per section	130-170
Quantitative Reasoning	2 sections 20 questions/section	35 minutes per section	130-170
Experimental & Unrecognized	1 section 20 questions Either Quantitative or Verbal Reasoning	30-35 minutes	Unscored

GRE Features

- An online test
- The overall testing time for the GRE ® General Test is about 3 hours and 45 minutes (excluding the break time)
- There are six sections with an optional 10-minute break following the third section and one-minute breaks between the remaining sections
- The Verbal Reasoning and Quantitative Reasoning sections are *section-level adaptive* on the GRE
- An on-screen calculator is provided for the Quantitative Reasoning measure
- A year-round test: choose your test date and time slot
- Retake once every 21-days
- Scores are VALID for 5 years

Quantitative Reasoning Topics

- Numbers and Exponents
- Percentages, Profit and Loss, Simple and Compound Interest, Ages, and Mixtures
- Ratios, Inequalities, Sequences, and Series
- Geometry, and Coordinate Geometry
- Functions
- Permutations and Combinations
- Probability
- Statistics
- Data Interpretation

Inequalities

Meaning of an equality?

An equality is a relationship between two quantities, saying that the quantities have the same value.

Meaning of an Inequality?

Inequality is any mathematical statement containing any one of these four symbols:

$>$, $<$, \geq , \leq

Inequalities

How to Solve Inequalities Questions?

An inequation (inequality) is solved in exactly the same way we solve an equation, by preserving the inequality sign at every step, except when we multiply or divide by negatives or when we raise both sides of an inequality by an even power.

Inequalities

Operations of Inequalities:

No Reversal	Reversal
Addition or subtraction of the same number on both sides	Multiplication or division by a negative number
Multiplication or division by a positive number only	
Raising to an odd power	

Inequalities

Operations of Inequalities:

Inequalities

Basic Steps to Solve an Inequality?

Simplify the Inequality using these 4 steps:

Step 1: Add or Subtract Numbers from both sides, to collect variables on one side and constants on the other.

Step 2: Multiply or Divide both sides by Positive Numbers, if needed.

Step 3: Multiply or Divide both sides by Negative Number if required, but change sign, upon such Multiplication or Division.

Step 4: Raise both sides to an Odd Power, if needed.

Inequalities

Q 1. If $-1 - 5x > 14$, then find x ?

- A. $x < 3$
- B. $x > -3$
- C. $x < -3$
- D. $x > 3$
- E. None of the above

Inequalities

Q 2. What is the solution set for x , if $x/3 + 2 > x/2$?

- A. $x > 12$
- B. $x > -12$
- C. $x < 12$
- D. $x < -12$
- E. $x < 6$

Inequalities

The Wavy-Curve Method:

Find values of x for which $(x-2)*(x-3)/(x-4)$ takes positive OR negative values:

Step 1: Equate content of each bracket to zero to find x .

Step 2: Plot the various obtained values of x on number line.

Step 3: Starting from right of rightmost plotted value of x , keep giving positive and negative values alternately.

Step 4: Write down the solution set.

Inequalities

Illustration of the Wavy-Curve Method.

Inequalities

Q 3. Find the values of x for which $(x-4)(x-3)/(x-5) > 0$

Statement 1: $x > 5$

Statement 2: $3 < x < 4$

Statement 3: $1 < x < 2$

- A. Only for Statement 1 and Statement 3.
- B. Only for Statement 1 and Statement 2.
- C. For Statement 1, Statement 2 and Statement 3.
- D. For None of Statement 1, Statement 2 and Statement 3.
- E. Only for Statement 2 and Statement 3.

Inequalities

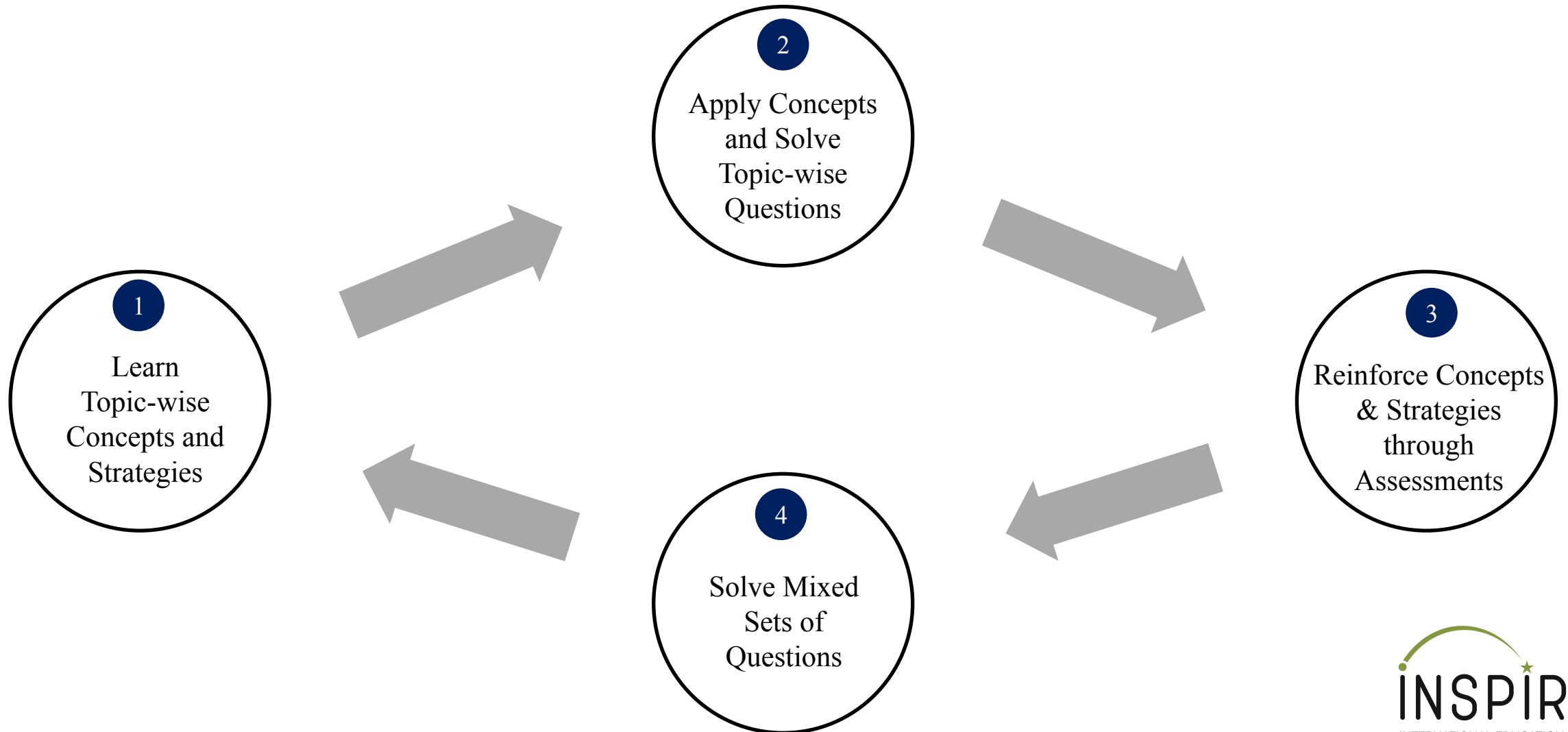
An intelligent extension of the Wavy-Curve Method for factors with powers.

Find values of x for which $(x-2)^2 \cdot (x-3)^3 / (x-4)^4 < 0$.

Inspirus Program Features

- Duration of each session -
- Diagnostic Test
- 4 Concepts and Practice Books on Verbal Reasoning and AWA, and Quantitative Reasoning
- 1 Vocabulary building book
- Topic-wise Assessments
- 15+ Full-length Online Mocks
- Access to the student portal

Inspirus Approach





Thank you