GRADUATE RECORD EXAMINATIONS®

Practice General Test # 1

Large Print (18 point) Edition

Section 4—Quantitative Reasoning
Section 5—Quantitative Reasoning

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The Graduate Record Examinations Practice General Test #1

Instructions for the Verbal Reasoning and Quantitative Reasoning Sections

For your convenience, these instructions are included both in the test book for Sections 2 and 3, and in the test book for Sections 4 and 5. The instructions are the same in both locations.

As a reminder, standard timing for each section of the test is shown in the following table:

Section Order	Section Name	Standard Time
1	Analytical Writing	30 minutes
2	Verbal Reasoning	21 minutes
3	Verbal Reasoning	28 minutes
4	Quantitative Reasoning	24 minutes
5	Quantitative Reasoning	32 minutes

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Important Notes

In the actual test, your scores for these sections will be determined by the number of questions you answer correctly. Nothing is subtracted from a score if you answer a question incorrectly. Therefore, to maximize your scores it is better for you to guess at an answer than not to respond at all. Work as rapidly as you can without losing accuracy. Do not spend too much time on questions that are too difficult for you. Go on to the other questions and come back to the difficult ones later.

Some or all of the passages in this test have been adapted from published material to provide the examinee with significant problems for analysis and evaluation. To make the passages suitable for testing purposes, the style, content, or point of view of the original may have been altered. The ideas contained in the passages do not necessarily represent the opinions of the Graduate Record Examinations Board or Educational Testing Service.

You may use a calculator in the Quantitative Reasoning sections only. You will be provided with a basic calculator and cannot use any other calculator, except as an approved accommodation.

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Marking Your Answers

In the actual test, all answers must be marked in the test book. The following instructions describe how answers must be filled in.

Your answers will be hand-scored, so **make sure your marks are clear and unambiguous**. Examples of acceptable and unacceptable marks will be given with the sample questions.

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Question Formats

This practice test may include questions that would not be used in an actual test administered in an alternate format because they have been determined to be less suitable for presentation in such formats.

The questions in these sections have several different formats. A brief description of these formats and instructions for entering your answer choices are given as follows.

Multiple-Choice Questions—Select One Answer Choice

These standard multiple-choice questions require you to select just one answer choice from a list of options. You will receive credit only if you mark the **single** correct answer choice and no other.

Example:

What city is the capital of France?

(A) Rome
(B) Paris
(C) London
(D) Cairo

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Acceptable Marks

(A) Rome	(A) Rome	(A) Rome
(B) Paris	(B) Paris	(B) Paris
(C) London	(C) London	(C) London
(D) Cairo	(D) Cairo	(D) Cairo
(A) Rome	(A) Rome	(A) Rome
(B) Paris	(B) Paris	(B) Paris
(C) London	(C) London	(C) London
(D) Cairo	(D) Cairo	(D) Cairo

(A) Rome
(B) Paris
(C) London
(D) Cairo

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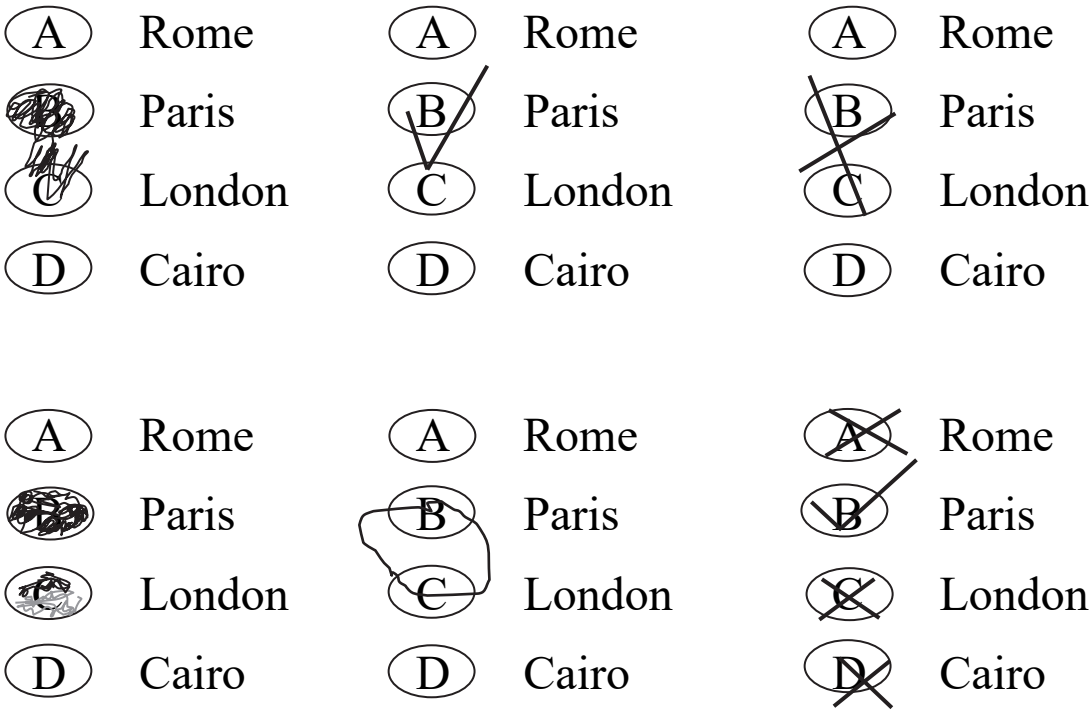
Unacceptable Marks



If you change an answer, be sure that all previous marks are erased completely. Stray marks and incomplete erasures may be read as intended answers. Blank areas of the test book may be used for working out answers, but do not work out answers near the answer-entry areas. Scratch paper will not be provided, except as an approved accommodation.

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Multiple-Choice Questions—Select One or More Answer Choices

Some of these questions specify how many answer choices you must select; others require you to select all that apply. In either case, to receive credit **all** of the correct answer choices must be marked. These questions are distinguished by the use of a square box to be marked to select an answer choice.

Example:

Select all that apply.

Which of the following countries are in Africa?

- [X] A Chad
- [ ] B China
- [ ] C France
- [X] D Kenya

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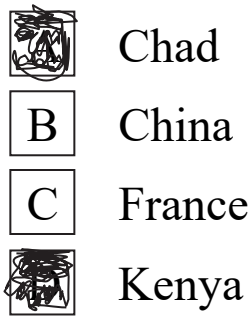
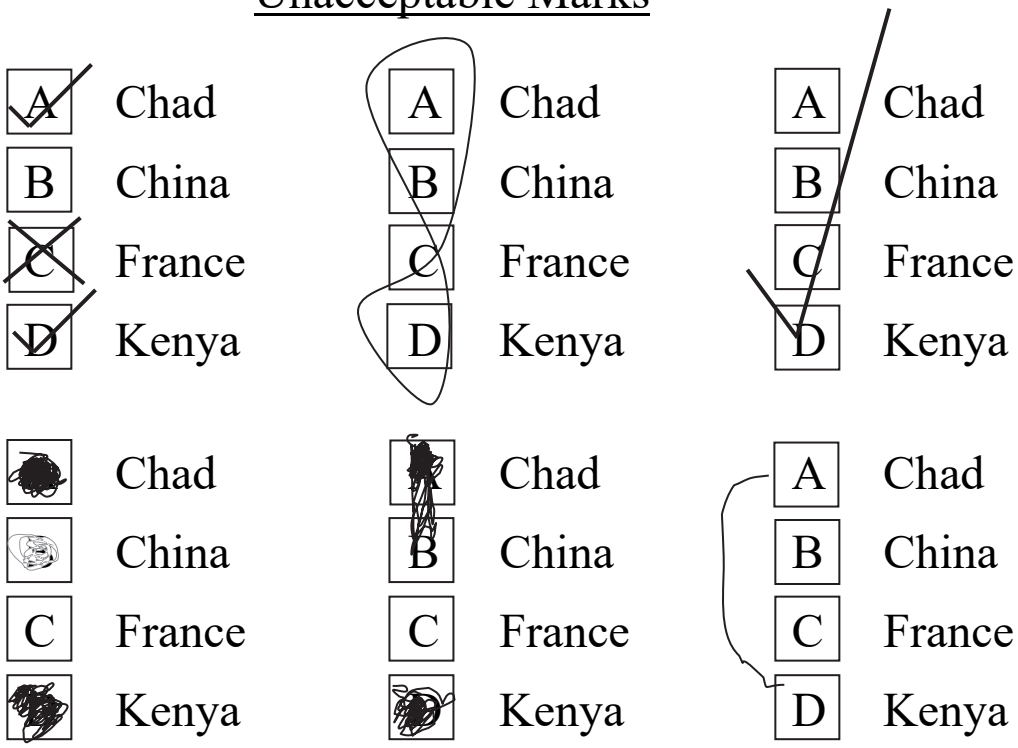
Acceptable Marks



Unacceptable Marks



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Column Format Questions

This question type presents the answer choices in columns. You must pick one answer choice from each column. You will receive credit only if you mark the correct answer choice **in each column**.

Example:

Complete the following sentence.
(i) _____ is the capital of (ii) _____.

Blank (i)	Blank (ii)
(X) A Paris	(D) Canada
(B) Rome	(X) E France
(C) Cairo	(F) China

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4 4 4 4 4 4 4 4 4 4 4

Numeric Entry Questions

These questions require a number to be entered by circling entries in a grid. If you are not entering in your own answers, your scribe should be familiar with these instructions.

1. Your answer may be an integer, a decimal, or a fraction, and it may be negative.
2. Equivalent forms of the correct answer, such as 2.5 and 2.50, are all correct. Fractions do **not** need to be reduced to lowest terms, though you may need to reduce your fraction to fit in the grid.
3. Enter the exact answer unless the question asks you to round your answer.
4. If a question asks for a fraction, the grid will have a built-in division slash (/). Otherwise, the grid will have a decimal point.
5. Start your answer in any column, space permitting. Circle no more than one entry in any column of the grid. Columns not needed should be left blank.
6. Write your answer in the boxes at the top of the grid and circle the corresponding entries. **You will receive credit only if your grid entries are clearly marked, regardless of the number written in the boxes at the top.**

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Examples of acceptable ways to use the grid:
Integer answer: 502 (either position is correct)

		5	**0**	**2**			
–	.	.	.	.	.	.	.
	0	0	⓪	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	②	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	⑤	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

				5	**0**	**2**	
–	.	.	.	.	.	.	.
	0	0	0	0	⓪	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	②	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	⑤	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

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Decimal Answer: –4.13

–				**4**	**.**	**1**	**3**
⊖	.	.	.	.	⊙	.	.
	0	0	0	0	0	0	0
	1	1	1	1	1	①	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	③
	4	4	4	④	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

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Fraction Answer: $-\frac{2}{10}$

–		**2**		/	**1**	**0**	
⊖	0	0	0		0	⓪	0
	1	1	1		①	1	1
	2	②	2		2	2	2
	3	3	3		3	3	3
	4	4	4		4	4	4
	5	5	5		5	5	5
	6	6	6		6	6	6
	7	7	7		7	7	7
	8	8	8		8	8	8
	9	9	9		9	9	9

Section 4 follows. In an actual test, your supervisor will tell you when to continue the test.

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Section 4
Quantitative Reasoning
15 Questions

Directions: **For each question, indicate the best answer, using the directions given.**

Notes: All numbers used are real numbers.

All figures are assumed to lie in a plane unless otherwise indicated.

Geometric figures, such as lines, circles, triangles, and quadrilaterals, **are not necessarily** drawn to scale. That is, you should **not** assume that quantities such as lengths and angle measures are as they appear in a figure. You should assume, however, that lines shown as straight are actually straight, points on a line are in the order shown, and more generally, all geometric objects are in the relative positions shown. For questions with geometric figures, you should base your answers on geometric reasoning, not on estimating or comparing quantities from how they are drawn in the geometric figure.

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Coordinate systems, such as *xy*-planes and number lines, **are** drawn to scale; therefore, you can read, estimate, or compare quantities in such figures from how they are drawn in the coordinate system.

Graphical data presentations, such as bar graphs, circle graphs, and line graphs, **are** drawn to scale; therefore, you can read, estimate, or compare data values from how they are drawn in the graphical data presentation.

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GO ON TO THE NEXT PAGE.

For each of Questions 1 to 5, compare Quantity A and Quantity B, using additional information centered above the two quantities if such information is given. Select one of the following four answer choices.

- (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.**

A symbol that appears more than once in a question has the same meaning throughout the question.

	Quantity A	Quantity B
Example 1:	$(2)(6)$	$2+6$

The correct answer choice for Example 1 is A. (2)(6), or 12, is greater than 2 + 6, or 8.

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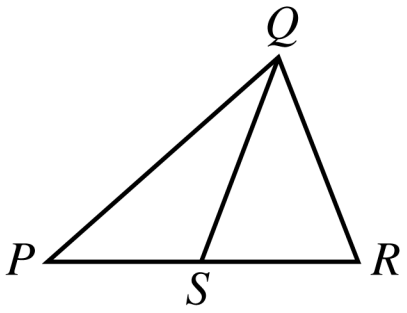

Quantity A	Quantity B
Example 2: The length of PS	The length of SR

The correct answer choice is D. The relationship between the lengths of PS and SR cannot be determined from the information given since equal measures cannot be assumed, even though the lengths of PS and SR appear to be equal in the figure.

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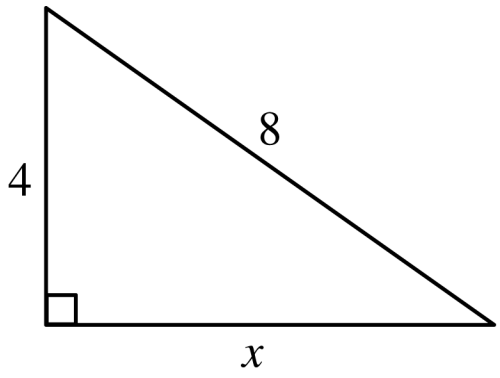

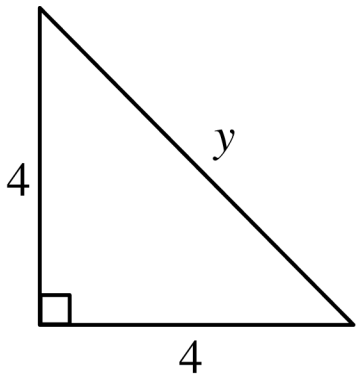

	Quantity A	Quantity B
1.	x	y

(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.

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A certain recipe requires $\frac{3}{2}$ cups of sugar and makes 2 dozen cookies. (1 dozen = 12)

	Quantity A	Quantity B
2.	The amount of sugar required for the same recipe to make 30 cookies	2 cups

(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.

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A power station is located on the boundary of a square region that measures 10 miles on each side. Three substations are located inside the square region.

	Quantity A	Quantity B
3.	The sum of the distances from the power station to each of the substations	30 miles

(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.

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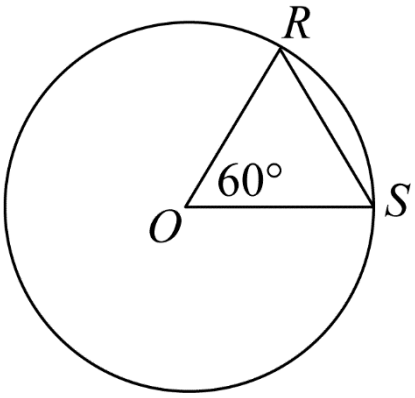

O is the center of the circle and the perimeter of ΔROS is 6.

	Quantity A	Quantity B
4.	The circumference of the circle	12

(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.

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	Quantity A	Quantity B
5.	The standard deviation of a set of 5 different integers, each of which is between 0 and 10	The standard deviation of a set of 5 different integers, each of which is between 10 and 20

(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.

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Questions 6 to 15 have several different formats, including both selecting answers from a list of answer choices and numeric entry. With each question, answer format instructions will be given.

Numeric Entry Questions

These questions require a number to be entered by circling entries in a grid. If you are not entering your own answers, your scribe should be familiar with these instructions.

1. Your answer may be an integer, a decimal, or a fraction, and it may be negative.
2. Equivalent forms of the correct answer, such as 2.5 and 2.50, are all correct. Fractions do **not** need to be reduced to lowest terms, though you may need to reduce your fraction to fit in the grid.
3. Enter the exact answer unless the question asks you to round your answer.
4. If a question asks for a fraction, the grid will have a built-in division slash (/). Otherwise, the grid will have a decimal point.

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5. Start your answer in any column, space permitting. Circle no more than one entry in any column of the grid. Columns not needed should be left blank.
6. Write your answer in the boxes at the top of the grid and circle the corresponding entries. **You will receive credit only if your grid entries are clearly marked, regardless of the number written in the boxes at the top.**

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Examples of acceptable ways to use the grid:

Integer answer: 502 (either position is correct)

		5	**0**	**2**			
–	.	.	.	.	.	.	.
	0	0	⓪	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	②	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	⑤	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

				5	**0**	**2**	
–	.	.	.	.	.	.	.
	0	0	0	0	⓪	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	②	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	⑤	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

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Decimal Answer: –4.13

–				**4**	**.**	**1**	**3**
⊖	.	.	.	.	⊙	.	.
	0	0	0	0	0	0	0
	1	1	1	1	1	①	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	③
	4	4	4	④	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

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Fraction Answer: $-\frac{2}{10}$

–		**2**		/	**1**	**0**	
⊖	0	0	0		0	⓪	0
	1	1	1		①	1	1
	2	②	2		2	2	2
	3	3	3		3	3	3
	4	4	4		4	4	4
	5	5	5		5	5	5
	6	6	6		6	6	6
	7	7	7		7	7	7
	8	8	8		8	8	8
	9	9	9		9	9	9

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This question has five answer choices. Select the best **one** of the answer choices given.

$7x + 3y = 12$
$3x + 7y = 6$

6. If x and y satisfy the system of equations shown, what is the value of $x - y$?

(A) $\frac{2}{3}$

(B) $\frac{3}{2}$

(C) 1

(D) 4

(E) 6

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This question has five answer choices. Select **all** the answer choices that apply. The correct answer to a question of this type could consist of as few as one, or as many as all five of the answer choices.

7. In triangle *DEF*, the measure of angle *D* is 25° and the measure of angle *E* is greater than 90°. Which of the following could be the measure of angle *F* ?

   Indicate **all** such measures.

   A 12°

   B 15°

   C 45°

   D 50°

   E 70°

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This question has five answer choices. Select the best **one** of the answer choices given.

8. What is the least integer n such that $\frac{1}{2^n} < 0.001$?

(A) 10

(B) 11

(C) 500

(D) 501

(E) There is no such least integer.

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This question has five answer choices. Select the best **one** of the answer choices given.

9. In the sunshine, an upright pole 12 feet tall is casting a shadow 8 feet long. At the same time, a nearby upright pole is casting a shadow 10 feet long. If the lengths of the shadows are proportional to the heights of the poles, what is the height, in feet, of the taller pole?

   (A) 10

   (B) 12

   (C) 14

   (D) 15

   (E) 18

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This question has five answer choices. Select the best **one** of the answer choices given.

10. If c is the smallest prime number greater than 21 and d is the largest prime number less than 16, then $cd =$

(A) 299

(B) 323

(C) 330

(D) 345

(E) 351

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This question does not have any answer choices; it is a numeric entry question. To answer this question, enter a number by circling entries in the grid provided below. The number can include a decimal point, and can be positive, negative, or zero. The number entered cannot be a fraction.

11. The total amount of Judy's water bill for the last quarter of the year was $40.50. The bill consisted of a fixed charge of $13.50 plus a charge of $0.0075 per gallon for the water used in the quarter. For how many gallons of water was Judy charged for the quarter?

								gallons
–	.	.	.	.	.	.	.	
	0	0	0	0	0	0	0	
	1	1	1	1	1	1	1	
	2	2	2	2	2	2	2	
	3	3	3	3	3	3	3	
	4	4	4	4	4	4	4	
	5	5	5	5	5	5	5	
	6	6	6	6	6	6	6	
	7	7	7	7	7	7	7	
	8	8	8	8	8	8	8	
	9	9	9	9	9	9	9	

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This question has five answer choices. Select the best **one** of the answer choices given.

Data set *S*: 28, 23, 30, 25, 27

Data set *R*: 22, 19, 15, 17, 20

12. The median of data set S is how much greater than the median of data set *R* ?

(A) 8

(B) 10

(C) 12

(D) 13

(E) 15

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This question has three answer choices. Select **all** the answer choices that apply. The correct answer to a question of this type could consist of as few as one, or as many as all three of the answer choices.

13. The total number of recording titles distributed by music distributors L and M is 9,300. The number of recording titles distributed by L is 7,100, and the number of recording titles distributed by M is 5,200. Which of the following statements must be true?

    Indicate **all** such statements.

    A More than half of the titles distributed by L are also distributed by M.

    B More than half of the titles distributed by M are also distributed by L.

    C No titles are distributed by both L and M.

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This question has five answer choices. Select the best **one** of the answer choices given.

14. If c and d are positive integers and m is the greatest common factor of c and d, then m must be the greatest common factor of c and which of the following integers?

(A) $c + d$

(B) $2 + d$

(C) cd

(D) $2d$

(E) d^2

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This question has five answer choices. Select the best **one** of the answer choices given.

15. Of the 750 participants attending a meeting of a certain association, 450 are members of the association and the rest are guests. Of all the participants, $\frac{1}{2}$ of the members and $\frac{1}{4}$ of the guests are less than thirty years old. If one of the participants will be randomly selected to receive a prize, what is the probability that the person selected will be less than thirty years old?

(A) $\frac{1}{8}$

(B) $\frac{1}{3}$

(C) $\frac{3}{8}$

(D) $\frac{2}{5}$

(E) $\frac{3}{4}$

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STOP

This is the end of Section 4. In an actual test, once you complete a section you may not return to it.

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Section 5
Quantitative Reasoning
20 Questions

Directions: **For each question, indicate the best answer, using the directions given.**

Notes: All numbers used are real numbers.

All figures are assumed to lie in a plane unless otherwise indicated.

Geometric figures, such as lines, circles, triangles, and quadrilaterals, **are not necessarily** drawn to scale. That is, you should **not** assume that quantities such as lengths and angle measures are as they appear in a figure. You should assume, however, that lines shown as straight are actually straight, points on a line are in the order shown, and more generally, all geometric objects are in the relative positions shown. For questions with geometric figures, you should base your answers on geometric reasoning, not on estimating or comparing quantities from how they are drawn in the geometric figure.

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Coordinate systems, such as *xy*-planes and number lines, **are** drawn to scale; therefore, you can read, estimate, or compare quantities in such figures from how they are drawn in the coordinate system.

Graphical data presentations, such as bar graphs, circle graphs, and line graphs, **are** drawn to scale; therefore, you can read, estimate, or compare data values from how they are drawn in the graphical data presentation.

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For each of Questions 1 to 7, compare Quantity A and Quantity B, using additional information centered above the two quantities if such information is given. Select one of the following four answer choices.

- (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.**

A symbol that appears more than once in a question has the same meaning throughout the question.

	Quantity A	Quantity B
Example 1:	$(2)(6)$	$2+6$

The correct answer choice for Example 1 is A. (2)(6), or 12, is greater than 2 + 6, or 8.

- -

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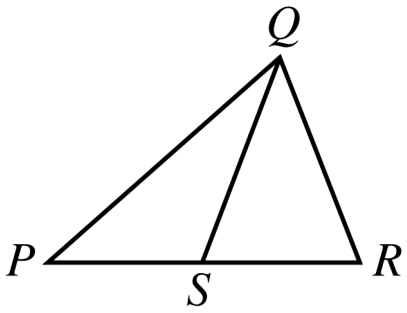

Quantity A	Quantity B
Example 2: The length of PS	The length of SR

The correct answer choice is D. The relationship between the lengths of PS and SR cannot be determined from the information given since equal measures cannot be assumed, even though the lengths of PS and SR appear to be equal in the figure.

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x is a positive integer and y is a negative integer.

	Quantity A	Quantity B
1.	$x - y$	$y - x$

(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.

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In a probability experiment, the probability that both events E and F will occur is 0.42.

	Quantity A	Quantity B
2.	The probability that event E will occur	0.58

(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.

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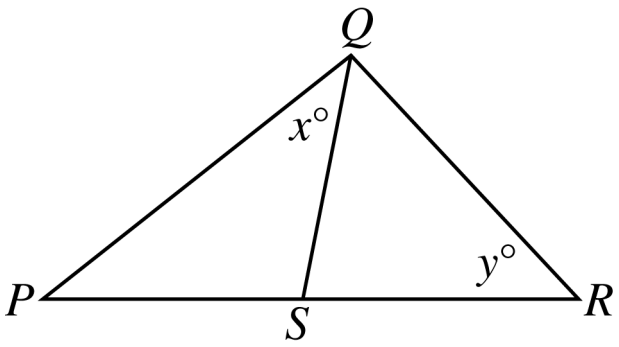

$PS = SR$

	Quantity A	Quantity B
3.	x	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.

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The average (arithmetic mean) of 100 measurements is 23, and the average of 50 additional measurements is 27.

	Quantity A	Quantity B
4.	The average of the 150 measurements	25

(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.

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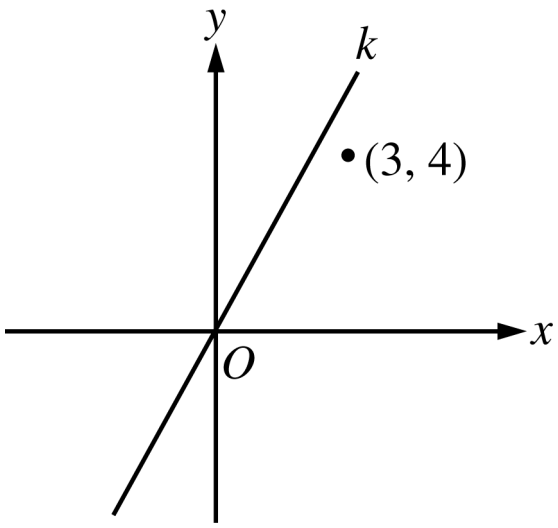

	Quantity A	Quantity B
5.	The slope of line k	1

(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.

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One of the roots of the equation $x^2 + kx - 6 = 0$ is 3, and k is a constant.

	Quantity A	Quantity B
6.	k	-1

(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.

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The original price of a suit was 30 percent less than the suit's $250 suggested retail price. The price at which the suit was sold was 20 percent less than the original price.

	Quantity A	Quantity B
7.	The price at which the suit was sold	50% of the suit's suggested retail price

(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.

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Questions 8 to 20 have several different formats, including both selecting answers from a list of answer choices and numeric entry. With each question, answer format instructions will be given.

Numeric Entry Questions

These questions require a number to be entered by circling entries in a grid. If you are not entering your own answers, your scribe should be familiar with these instructions.

1. Your answer may be an integer, a decimal, or a fraction, and it may be negative.
2. Equivalent forms of the correct answer, such as 2.5 and 2.50, are all correct. Fractions do **not** need to be reduced to lowest terms, though you may need to reduce your fraction to fit in the grid.
3. Enter the exact answer unless the question asks you to round your answer.
4. If a question asks for a fraction, the grid will have a built-in division slash (/). Otherwise, the grid will have a decimal point.

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5. Start your answer in any column, space permitting. Circle no more than one entry in any column of the grid. Columns not needed should be left blank.
6. Write your answer in the boxes at the top of the grid and circle the corresponding entries. **You will receive credit only if your grid entries are clearly marked, regardless of the number written in the boxes at the top.**

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Examples of acceptable ways to use the grid:

Integer answer: 502 (either position is correct)

		5	**0**	**2**			
–	.	.	.	.	.	.	.
	0	0	⓪	0	0	0	0
	1	1	1	1	1	1	1
	2	2	2	②	2	2	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	⑤	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

				5	**0**	**2**	
–	.	.	.	.	.	.	.
	0	0	0	0	⓪	0	0
	1	1	1	1	1	1	1
	2	2	2	2	2	②	2
	3	3	3	3	3	3	3
	4	4	4	4	4	4	4
	5	5	5	⑤	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

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Decimal Answer: –4.13

–				**4**	**.**	**1**	**3**
⊖	.	.	.	.	⊙	.	.
	0	0	0	0	0	0	0
	1	1	1	1	1	①	1
	2	2	2	2	2	2	2
	3	3	3	3	3	3	③
	4	4	4	④	4	4	4
	5	5	5	5	5	5	5
	6	6	6	6	6	6	6
	7	7	7	7	7	7	7
	8	8	8	8	8	8	8
	9	9	9	9	9	9	9

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Fraction Answer: $-\frac{2}{10}$

–		**2**		/	**1**	**0**	
⊖	0	0	0		0	⓪	0
	1	1	1		①	1	1
	2	②	2		2	2	2
	3	3	3		3	3	3
	4	4	4		4	4	4
	5	5	5		5	5	5
	6	6	6		6	6	6
	7	7	7		7	7	7
	8	8	8		8	8	8
	9	9	9		9	9	9

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This question has five answer choices. Select the best **one** of the answer choices given.

8. If j and k are integers and $j - k$ is even, which of the following must be even?

(A) k

(B) jk

(C) $j + 2k$

(D) $jk + j$

(E) $jk - 2j$

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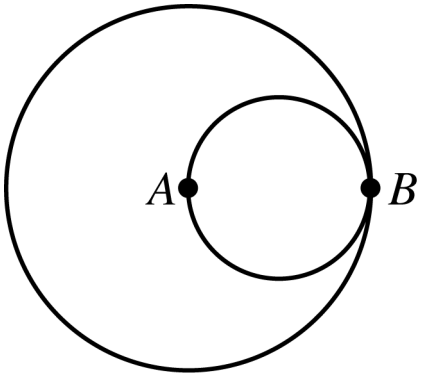
This question does not have any answer choices; it is a numeric entry question. To answer this question enter a fraction by circling entries in the grid provided on the following page. The fraction can be positive or negative. Neither the numerator nor the denominator of the fraction can include a decimal point. The fraction does not have to be in lowest terms.



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9. The circles shown are tangent at point B. Point A is the center of the larger circle, and line segment AB (not shown) is a diameter of the smaller circle. The area of the smaller circle is what fraction of the area of the larger circle?

				/			
–	0	0	0		0	0	0
	1	1	1		1	1	1
	2	2	2		2	2	2
	3	3	3		3	3	3
	4	4	4		4	4	4
	5	5	5		5	5	5
	6	6	6		6	6	6
	7	7	7		7	7	7
	8	8	8		8	8	8
	9	9	9		9	9	9

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This question has five answer choices. Select **all** the answer choices that apply. The correct answer to a question of this type could consist of as few as one, or as many as all five of the answer choices.

10. Last year Kate spent between $\frac{1}{4}$ and $\frac{1}{3}$ of her gross income on her mortgage payments. If Kate spent $13,470 on her mortgage payments last year, which of the following could have been her gross income last year?

    Indicate **all** such gross incomes.

    A $40,200

    B $43,350

    C $47,256

    D $51,996

    E $53,808

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This question has five answer choices. Select the best **one** of the answer choices given.

11. If p is a negative number and $0 < s < |p|$, which of the following must also be a negative number?

(A) $(p + s)^2$

(B) $(p - s)^2$

(C) $(s - p)^2$

(D) $p^2 - s^2$

(E) $s^2 - p^2$

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This question has five answer choices. Select the best **one** of the answer choices given.

12. If $\frac{1}{2^m} + \frac{1}{2^m} = \frac{1}{2^x}$, then x expressed in terms of m is

(A) $\frac{m}{2}$

(B) $m - 1$

(C) $m + 1$

(D) $2m$

(E) m^2

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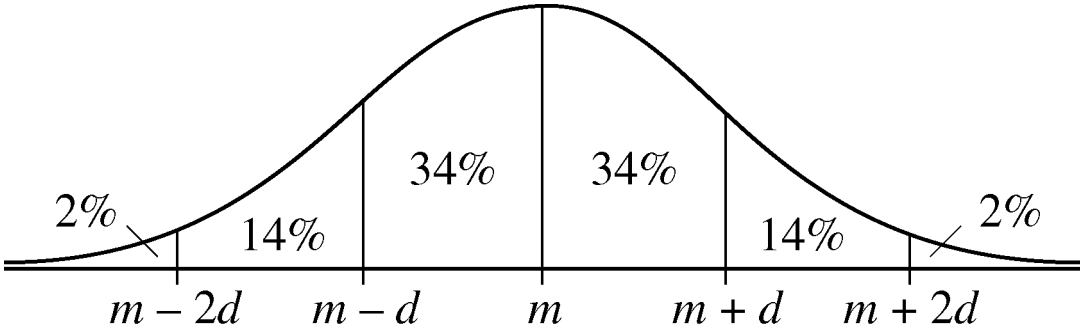
This question has five answer choices. Select the best **one** of the answer choices given.



13. The figure shows a normal distribution with mean m and standard deviation d, including approximate percents of the distribution in each of the six regions shown.

    For a population of 800,000 subway riders, the numbers of subway trips taken per rider last January are approximately normally distributed with a mean of 56 trips and a standard deviation of 13 trips. Approximately how many of the riders took between 30 and 43 trips last January?

    (A) 60,000

    (B) 110,000

    (C) 160,000

    (D) 210,000

    (E) 270,000

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Questions 14 to 16 are based on the following data.

Student Enrollment at a Small College

Distribution of Enrollment by Class and Residency
Total Enrollment: 1,400

Class	Residents	Nonresidents
Freshmen	303	259
Sophomores	215	109
Juniors	182	88
Seniors	160	84
Total	860	540

Percent of Total Enrollment Majoring in Selected Academic Areas

Area	Percent
Humanities	33%
Social sciences	30%
Physical sciences	24%

Note: No student is majoring in more than one area.

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This question has five answer choices. Select the best **one** of the answer choices given.

14. Students **not** majoring in humanities constitute what percent of the total enrollment?

(A) 54%

(B) 67%

(C) 70%

(D) 76%

(E) 77%

This question has five answer choices. Select the best **one** of the answer choices given.

15. Approximately what percent of the nonresidents are juniors?

(A) 16%

(B) 18%

(C) 20%

(D) 21%

(E) 25%

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This question has five answer choices. Select the best **one** of the answer choices given.

16. If 40 percent of the social science majors are nonresidents, how many residents are social science majors?

(A) 120

(B) 168

(C) 220

(D) 252

(E) 372

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This question has five answer choices. Select the best **one** of the answer choices given.

17. The quantities S and T are positive and are related by the equation $S = \frac{k}{T}$, where k is a constant. If the value of S increases by 50 percent, then the value of T decreases by what percent?

(A) 25%

(B) $33\frac{1}{3}\%$

(C) 50%

(D) $66\frac{2}{3}\%$

(E) 75%

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This question has five answer choices. Select the best **one** of the answer choices given.

18. If x and y are the tens digit and the units digit, respectively, of the product $725,278 \times 67,066,$ what is the value of $x + y$?

(A) 12
(B) 10
(C) 8
(D) 6
(E) 4

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This question has five answer choices. Select the best **one** of the answer choices given.

19. A developer has land that has x feet of lake frontage. The land is to be subdivided into lots, each of which is to have either 80 feet or 100 feet of lake frontage. If $\frac{1}{9}$ of the lots are to have 80 feet of frontage each and the remaining 40 lots are to have 100 feet of frontage each, what is the value of x ?

(A) 400

(B) 3,200

(C) 3,700

(D) 4,400

(E) 4,760

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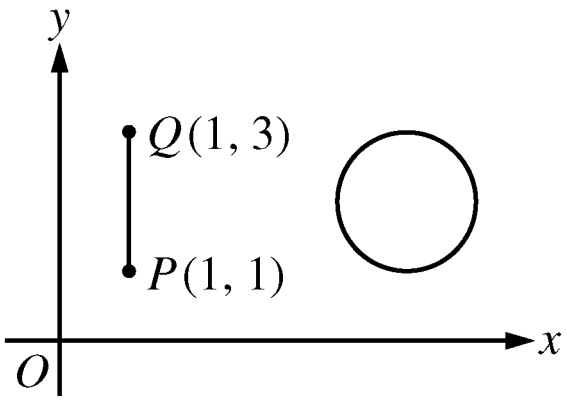
This question has eight answer choices. Select **all** the answer choices that apply. The correct answer to a question of this type could consist of as few as one, or as many as all eight of the answer choices.



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20. The figure shows line segment PQ and a circle with radius 1 and center $(5, 2)$ in the xy-plane. Which of the following values could be the distance between a point on line segment PQ and a point on the circle?

    Indicate **all** such values.

- A 2.5
- B 3.0
- C 3.5
- D 4.0
- E 4.5
- F 5.0
- G 5.5
- H 6.0

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STOP

This is the end of Section 5. In an actual test, once you complete a section you may not return to it.

End of The Graduate Record Examinations Practice General Test #1.

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