

SECTION 4: QUANTITATIVE REASONING*35 minutes • 20 questions**(The paper-delivered test will have 25 questions to be completed in 40 minutes.)*

For each question, follow the specific directions and choose the best answer.

The test maker provides the following information that applies to all questions in the Quantitative Reasoning section of the GRE® General Test:

- 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 by sight or by measurement.
- Coordinate systems, such as *xy*-planes and number lines, *are* drawn to scale. Therefore, you can read, estimate, or compare quantities in such figures by sight or by measurement.
- 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 by sight or by measurement.

For Questions 1–8, compare Quantity A and Quantity B. Some questions will have additional information above the two quantities to use in determining your answer.

1.	<u>Quantity A</u>	<u>Quantity B</u>
	$6\frac{7}{8}$	3.42(2)

- 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.

5. $y < x < 0$

Quantity A

$$|x|$$

Quantity B

$$|y|$$

- 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.
6. Assume a and b are two different integers.

Quantity A

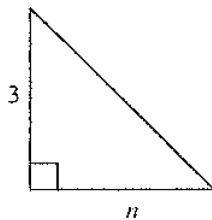
$$(a + b)^2$$

Quantity B

$$(a + b)^3$$

- 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.

- 7.



The area of the triangle is 15.

Quantity A

$$n$$

Quantity B

$$12$$

- 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.

10. A regular, six-sided die is rolled three times. What is the probability that each of the three rolls will produce an odd number?

- A. $\frac{1}{2}$
- B. $\frac{1}{3}$
- C. $\frac{1}{6}$
- D. $\frac{1}{8}$
- E. $\frac{1}{216}$

For Question 11, indicate all the answers that apply.

11. Find the next 3 numbers in the sequence.
1, 1, 2, 3, 5, 8,

- A. 12
- B. 13
- C. 14
- D. 21
- E. 22
- F. 33
- G. 34
- H. 55

12. Let $f(x) = -3x^2(1 - x)$. Find $f(-2)$.

- A. 108
- B. 36
- C. 12
- D. -12
- E. -36

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Diagnostic Test

Questions 16–18 are based on the following data.

Annual State Budgets (in millions of dollars)

	2011	2012	2013	2014	2015	2016, est
State A	53.0	75.9	85.5	101.6	131.2	142.1
State B	14.4	14.5	20.0	19.0	39.2	43.5

16. What is the ratio of the total (State A + State B) estimated budget of 2016 to 2011's budget?

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- A. 33.7 : 92.8
B. 142.1 : 53.0
C. 43.5 : 14.4
D. 14.4 : 43.5
E. 92.8 : 33.7
17. What is the total budget for State A for 2011, 2012, and 2015?
- A. 68.1
B. 260.1
C. 268
D. 276.4
E. 308.7
18. What year had the biggest percentage increase from the previous year in State B, and what was the percentage increase?
- A. 2013, 138%
B. 2015, 206%
C. 2014, 37%
D. 2015, 106%
E. 2016, 11%

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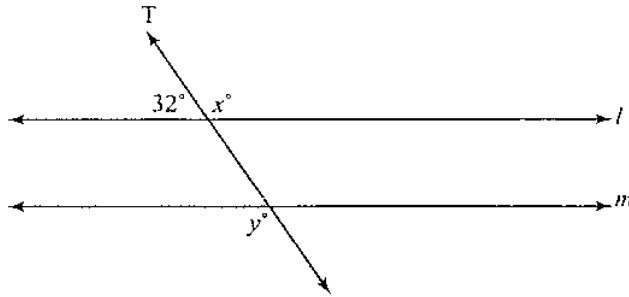
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For Questions 1–8, compare Quantity A and Quantity B. Some questions will have additional information above the two quantities to use in determining your answer.

1.	<u>Quantity A</u>	<u>Quantity B</u>
	0.324875	$\frac{10}{31}$

- 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.

5.



Assume lines l and m are parallel.

Quantity A

x

Quantity B

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.

6.

Quantity A

$\frac{15}{16}$

Quantity B

$\frac{16}{15}$

- 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.

7.

There are 15 players on Team 1. There are 22 players on Team 2.
There are more offensive players than defensive players on each team.

Quantity A

Number of goalies on Team 1

Quantity B

Number of goalies on Team 2

- 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.

Diagnostic Test

10. If $2x - y = -1$ and $3x + 2y = 16$, what is x ?

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- A. 5
- B. 2
- C. $\frac{15}{7}$
- D. $\frac{1}{2}$
- E. $\frac{7}{15}$

11. If $\frac{3}{x-1} = \frac{6}{3x+6}$, then $x =$

- A. -8
- B. -1
- C. 0
- D. 1
- E. 8

12. A new model hybrid car gets 45 miles per gallon for city driving and 20% more for highway driving. How many miles per gallon does the hybrid get for highway driving?

- A. 34
- B. 46
- C. 51
- D. 54
- E. 58

16. What percentage of the families has 6 children?

A. 19
B. 9
C. 15
D. 12
E. unknown

17. In the xy -plane, what is the slope of a line that is perpendicular to the line whose equation is $x + 2y = 5$?

A. -2
B. $-\frac{1}{2}$
C. $\frac{1}{2}$
D. 2
E. 5

18. What is the x -coordinate of the point at which the graphs of the equations $x + 2y = 4$ and $y - x = 2$ intersect?

A. -8
B. -2
C. 0
D. 2
E. 16

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