

GRE Quantitative Reasoning

Sample Paper 08

A) Subject: Quantitative Reasoning **B) Total Questions:** 27 Questions (Section I: 12 — Section II: 15)

C) Time Allowed: 47 Minutes

- **Section 1:** 12 Questions — 21 Minutes
- **Section 2:** 15 Questions — 26 Minutes

D) Marking Scheme:

- **Correct Answer:** +1 Point
- **Incorrect/Unattempted:** 0 Points (No Negative Marking)

SECTION I: QUANTITATIVE REASONING

Q1. Choose the answer which best simplifies the expression below:

$$2k(5k - 3) + 6b - 5(2k + b) - kb$$

- A. $10k^2 - 16k + b - kb$
- B. $10k^2 - 6k + b - kb$
- C. $10k^2 - 16k - b - kb$
- D. $10k^2 - 16k + b + kb$
- E. $10k^2 - 10k + b - kb$

Q2. u and v are non-zero integers.

Quantity A
 $(u - v)^2$

Quantity B
 $(u + v)^2$

- 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.

Q3. Simplify the following expression: $\sqrt{147} + \sqrt{48} - \sqrt{75}$

- A. It cannot be simplified further
- B. $5\sqrt{3}$
- C. $6\sqrt{3}$
- D. $\sqrt{120}$
- E. $4\sqrt{3}$

Q4. Simplify: $\sqrt{288} - \sqrt{72}$

- A. $6\sqrt{2}$
- B. 12
- C. $4\sqrt{2}$
- D. $\sqrt{216}$
- E. $12\sqrt{2}$

Q5. Region East has 4,500 subscribers and Region West has 6,000. Animated Series are watched by 32% in East and 42% in West. How many more watch Animated Series in West than in East?

- A. 1,080 more
- B. 1,080 fewer
- C. 1,440 more
- D. 1,440 fewer
- E. 360 more

Q6. Find the square root of the following decimal: 0.002

- A. 0.0014
- B. 0.0141
- C. 0.0447
- D. 0.020
- E. 0.02

Q7. In sequence W , each term is $w_n = 3w_{n-1} - 2$. If $w_2 + w_4 = 44$, what is the first term (w_1)?

- A. 2
- B. 5

C. 3

D. 4

E. 6

Q8. Evaluate: 0.1854×10^3

A. 1.854

B. 18.54

C. 185.4

D. 1854

E. 0.0001854

Q9. A merchant crafts a 3-tin gift set from 18 blends and 2 honey jars from 5 varieties. If 1 specific honey variety is mandatory, how many unique combinations can be configured?

A. 3,264

B. 1,632

C. 816

D. 4,896

E. 2,448

Q10. Charger X starts at 120 watt-hours (adds 15/hr). Charger Y starts at 100 watt-hours (adds 18/hr).

Quantity A

Total energy in Cell X after 6 hours

Quantity B

Total energy in Cell Y after 5 hours

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.

Q11. If m and n are both even integers, which of the following expressions must always yield an even integer value?

A. $m \cdot n + 1$

B. $5m - 3n + 7$

C. $(m + 1)(n - 3)$

D. $m^2 + n^3 - 4$

E. $\frac{m+n}{2}$

Q12. Which absolute value inequality correctly establishes the continuous interval range $-7 \leq x \leq 1$ on a number line?

A. $|2x + 6| \leq 8$

B. $|x - 3| \leq 4$

C. $|x + 3| \leq 4$

D. $|3x + 9| \geq 12$

E. $|x + 4| \leq 3$

prepp
Your Personal Exam Guide

SECTION II: QUANTITATIVE REASONING

Q1. Composite Sheet M costs \$40 at 60 sq yards/hr. Every 15 sq yard/hr increase raises unit cost by 20%. If the speed is pushed to 90 sq yards/hr, what is the minimum price for a 25% profit?

- A. \$72.00
- B. \$64.80
- C. \$75.00
- D. \$86.40
- E. \$57.60

Q2. A box holds 20 plates (10 monochrome landscapes, 10 sepia portraits). If 2 plates are retrieved at random without replacement, what is the probability they will NOT both be sepia?

- A. $\frac{9}{38}$
- B. $\frac{29}{38}$
- C. $\frac{1}{4}$
- D. $\frac{31}{38}$
- E. $\frac{19}{38}$

Q3. The mean of seven sensor readings is 64. When six are isolated, their mean is 60.

Quantity A

The value of the seventh reading

Quantity B

85

- 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. $x < -1$ **Quantity A**
 x^2

Quantity B
 x^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.

Q5. A circle has a diameter of 10.	Quantity A	Quantity B
	The circumference of the circle	10π

- 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.

Data Interpretation: Monthly Small Business Budget			
Month	Inventory Cost (\$)	Marketing Cost (\$)	Total Revenue (\$)
April	2,000	500	4,200
May	2,500	800	5,000
June	2,200	600	4,800

Q6. In which month was the ratio of Marketing Cost to Inventory Cost the highest?

- A. April
B. May
C. June
D. April and May
E. June and April

Q7. What was the total profit (Total Revenue - Inventory - Marketing) for the three-month period?

Q8. In May, Inventory Cost was what percent of the Total Revenue for that month?

- A. 25%
- B. 40%
- C. 50%
- D. 60%
- E. 75%

Q9. A right triangle has a hypotenuse of 13 and one leg of 5. What is the area of the triangle?

- A. 30
- B. 60
- C. 65
- D. 12
- E. 15

Q10. $x \neq 0$ **Quantity A** **Quantity B**
 $|x| + |-x|$ $2x$

- 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.

Q11. If 24 workers can complete a task in 8 days, how many days would it take 16 workers to complete the same task?

- A. 10
- B. 12
- C. 14
- D. 16
- E. 18

Q12. A cylindrical container has a radius of 2 and a height of 5. What is its volume?

- A. 10π
- B. 20π
- C. 25π
- D. 50π
- E. 100π

Q13. If x is 25% of y , and y is 80% of 200, what is the value of x ?

Q14. How many distinct prime factors does the number 210 have?

- A. 3
- B. 4

C. 5

D. 6

E. 7

Q15. The coordinates of two points are $(2, 3)$ and $(5, 7)$. What is the distance between these two points?

prepp
Your Personal Exam Guide

Solutions - Section I

1. (A) $10k^2 - 6k + 6b - 10k - 5b - kb = 10k^2 - 16k + b - kb$.
2. (D) Depends on the signs of u and v .
3. (B) $7\sqrt{3} + 4\sqrt{3} - 5\sqrt{3} = 6\sqrt{3}$.
4. (A) $12\sqrt{2} - 6\sqrt{2} = 6\sqrt{2}$.
5. (A) West: $6000 \times 0.42 = 2520$. East: $4500 \times 0.32 = 1440$. $2520 - 1440 = 1080$.
6. (C) $\sqrt{0.002} \approx 0.0447$.
7. (A) $30w_1 - 28 = 44 \rightarrow w_1 = 2.4$ (Nearest integer baseline 2).
8. (C) $0.1854 \times 1000 = 185.4$.
9. (A) $\binom{18}{3} \times \binom{4}{1} = 816 \times 4 = 3,264$.
10. (A) X: $120 + 90 = 210$. Y: $100 + 90 = 190$.
11. (D) $m^2 + n^3 - 4$ remains even. (E) can be odd (e.g., $(2 + 4)/2 = 3$).
12. (C) Midpoint is -3 , distance is 4. $|x - (-3)| \leq 4 \rightarrow |x + 3| \leq 4$.

Solutions - Section II

1. (A) $40 \times 1.2 \times 1.2 \times 1.25 = 72$.
2. (B) $1 - (10/20 \times 9/19) = 29/38$.
3. (A) Sum of 7 = 448. Sum of 6 = 360. 7th = 88. $88 > 85$.
4. (A) x^2 is positive, x^3 is negative for $x < -1$.
5. (C) Circumference = $\pi d = 10\pi$.
6. (B) Apr: 0.25, May: 0.32, June: 0.27. May is highest.
7. **7,400** $(1700 + 1700 + 2000) \times \dots$ Summing Profits: $1700 + 1700 + 2000 = 5400$.
8. (C) $2500/5000 = 50\%$.
9. (A) $Leg = \sqrt{13^2 - 5^2} = 12$. Area = $0.5 \times 12 \times 5 = 30$.
10. (D) If x is negative, Quantity A is positive and B is negative.
11. (B) Inverse variation: $24 \times 8 = 16 \times D \rightarrow D = 12$.
12. (B) $\pi(2^2)(5) = 20\pi$.
13. **40** $y = 0.8 \times 200 = 160$. $x = 0.25 \times 160 = 40$.
14. (B) $210 = 2 \times 3 \times 5 \times 7$. There are 4 prime factors.
15. **5** $\sqrt{(5-2)^2 + (7-3)^2} = \sqrt{9+16} = 5$.