"Quantitative Reasoning – The only place where people can buy 64 watermelons and no one wonders why..."

This test is a measure of your basic mathematical skills, understanding of elementary concepts and the ability to reason quantitatively to model and solve problems.

- 1. Say, the average of two numbers is equal to one of them. Then, what can be said about them?
- A. They are equal
- B. The number that is equal to the average is the Greater number
- C. The number that is equal to the average is the smaller number
- D. Information Insufficient to decide
- 2. Tyra runs at 10kph and completes the track in 151.2 minutes.

Quantity A: The length of the track.

Quantity B: 15 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.
- 3. Quantity A: $\tan^2\alpha + \cot^2\alpha + 2$ Quantity B: $\sec^2\alpha \cdot \csc^2\alpha$
- 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.
- 4. Quantity A: $-x^3-x+1$ Quantity B: x^3+x+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.

- 5. Ram moves 6m in the south and 8m in the east.
 - Quantity A: His distance from the starting point.
 - Quantity B: Atomic No of Oxygen*sin²(45°)
- 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. Arvind had a farm of sheep. He picked out 20 sheep randomly one day and fleeced them. The next day, he picked out another 30 sheep randomly and found that 2 of them are fleeced.
 - Quantity A: Estimated Number of Sheep in his farm.
 - Quantity B: 600 sheep
- 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. Say Fun(a,b) = a*(a+b)Find Fun (Fun (3, 2), 3)
- A. 270
- B. 340
- C. 240
- D. 120
- 8. Say Fun(a,b) = a*(a+b)Find Fun (Fun (3, 2), x) = 240
- A. 1
- B. 2
- C. 3
- D. 4

9. Say Fun(a,b) = a*(a+b)

Find Fun (Fun (1, x), x) = 4

If the possible values of x are c, d, find 1/c+1/d

- A. 1
- B. 2
- C. 3/2
- D. -3/2
- 10. Quantity A: 7t+4t+5

Quantity B: 8t-9t+11t+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.
- 11. A fruit mix contains 10% Oranges and 90% Grapes. It costs 5% more than pure Oranges.

Quantity A: Cost of Oranges

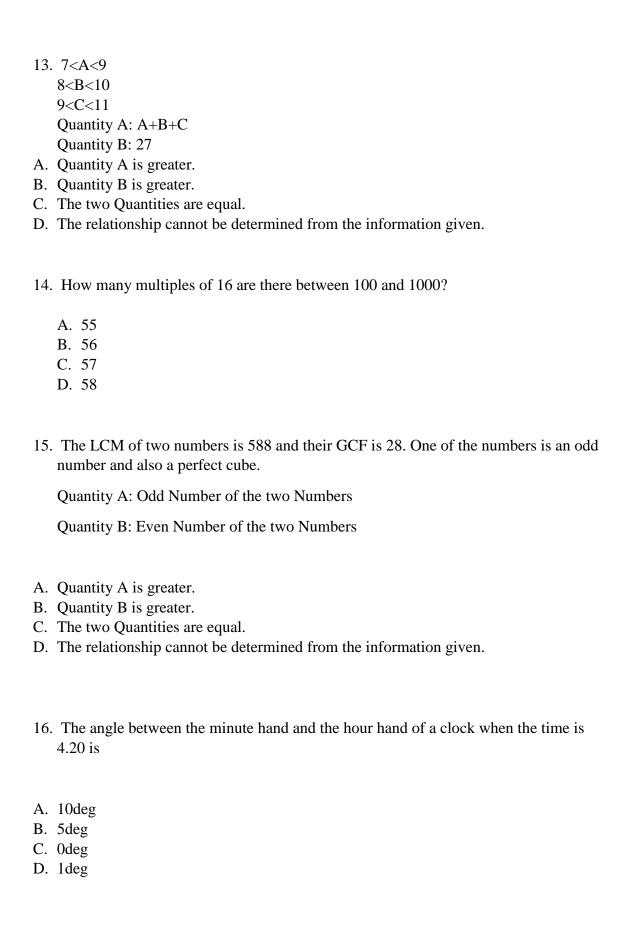
Quantity B: Cost of Grapes

- 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.
- 12. If $a = \log_{\sin 30 \text{deg}} \cos 60^{\circ}$, $b = \log_{2-\text{sqrt}(3)} 2 + \text{sqrt}(3)$

Quantity A: a+b

Quantity B: a*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.



17. A watch loses 5 min every hour and was set right at 9 a.m. on Monday. When will it show correct time again?
A. SundayB. MondayC. SaturdayD. Friday
18. A Pizza shop sells two types of Pizzas. Pizza A: Has a diameter of 40cm Pizza B: Has a diameter of 80 cm but costs twice that of Pizza A In terms of cost effectiveness and size, which is true?
A. Pizza A is betterB. Pizza B is betterC. Data is not sufficientD. Each of the two pizzas are equally good
19. Ram scored 84, 67, 73, 45, 69, 92, and 87 in his tests. His teacher decides to drop his highest and lowest scores for calculating his average. Is this going to be good for Ram?
A. Yes B. No C. Can't say D. It doesn't matter
20. The average of 20 numbers is zero. Of them, how many of them may be greater than zero, at the most?
A. 1 B. 20 C. 0 D. 19
21. The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining

players is one year less than the average age of the whole team. Find out the average age of the team.

- A. 23
- B. 20
- C. 24
- D. 21

22. A is 1/10% of B which is 10,000 % of C. Which is a true statement?

- A. A=0.01C
- B. A=0.1C
- C. A=C
- D. A=0.001C

23. If $a=\log(\operatorname{sqrt}(x))/\log(x)$, which is true?

- A. a changes with x
- B. a is a constant and its value is 0
- C. a is a constant and its value is 1/2
- D. Need more data

24. Is $\log_x x = 1$ if x < = 0

- A. Yes
- B. No
- C. Yes for x=0 but not x<0
- D. None of the above

25. Kiran starts a shop of his own but being a fan of the barter system, he does business using the following conversion.

10 mangoes = 2 Guava

- 1 Guava = 2 Peach
- 4 Peach = 1 Apple

On the basis of the above rates, to buy an apple, how many mangoes should I give Kiran?

- A. 4
- B. 8
- C. 10
- D. 12

Read the following passage.

Football is one of the most popular games played in the world. The FIFA World Cup 2014 held in Brazil was one of the most popular World Cups with Germany lifting the trophy. The teams were divided into 8 groups of 4 teams each. The stages of the tournament are as follows.

- 1. Group Stage
- 2. Pre-Quarterfinals (Round of 16)
- 3. Quarterfinals
- 4. Semi-finals
- 5. Final
- 6. Third Place Finish

In the group stage, each team played against the other 3 and the top two teams of each group made the knockouts. From stage 2, all the games were KO's with the winner taking all. One extra match was played to determine who finished 3rd. Final match was played between Germany and Argentina with Germany winning it 1-0 on the back of a Mario Gotze goal. The holders Spain were surprisingly knocked out in the Group Stage. The tournament though was a sordid affair as only 171 goals were scored, considerably lower than the 2010 edition. The host nation finished 4th losing 1-7 to Germany in the semi-finals and 0-3 to Netherlands in the 3rd place playoff.

Answer the following.

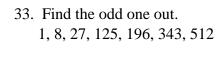
26. How many matches were played in the Group Stage?

- A. 36
- B. 48
- C. 52
- D. 64

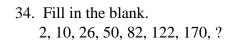
27. What were the average goals scored per match in the tournament?

	A. 2.67 B. 2.71 C. 3.56 D. 3.00
28.	How many games did Brazil play?
	A. 4 B. 5 C. 6 D. 7
29.	$(\log_3 4) (\log_4 5) (\log_5 6) (\log_6 7) (\log_7 8) (\log_8 9) (\log_9 9) = ?$
	A. 4 B. 0 C. 2 D. 1
	In a deck of 52 cards, there are 13 cards of spades. If I remove one card of spades and one card of hearts, what percent of the remaining cards are spades?
	A. 22 B. 23 C. 24 D. 25
31.	Find the odd one out of the following numbers. 187, 275, 374, 912, 891, 792
B.	187 374 912 891

32. Using the five digits 2, 4,6,8,1 how many five digit numbers greater than 40,000 can be formed where none of the digits are repeated?
A. 24
B. 48
C. 72
D. 96



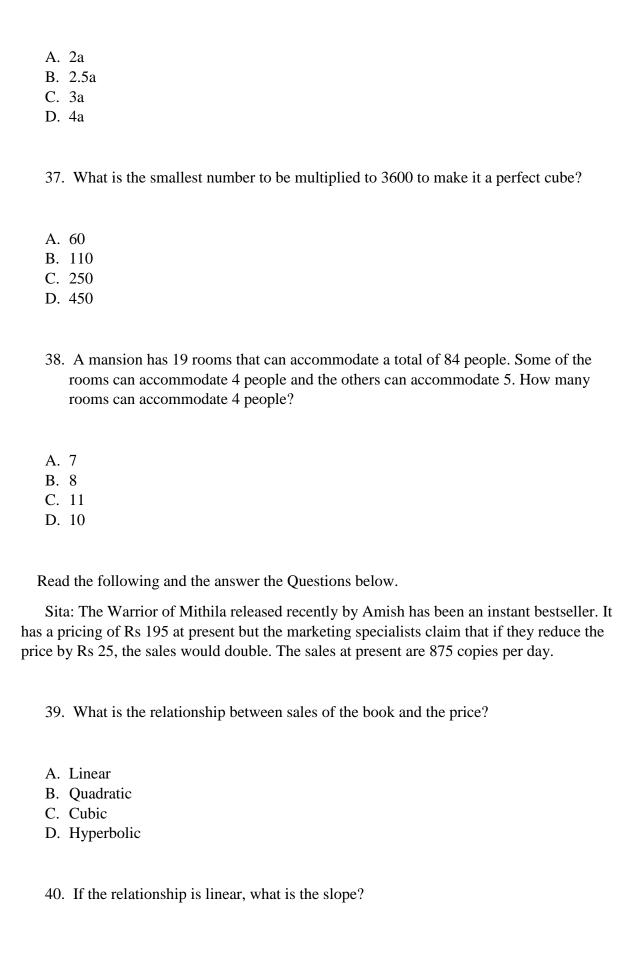
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A. 8B. 125C. 196D. 512
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- A. 196 B. 226 C. 216 D. 256
- 35. This is an interesting problem. A train compartment has 1000 seats. The first passenger to board the train loses his ticket and so sits in a random seat. The next passengers take their own seat if available else they sit randomly. What is the probability that the last passenger sits in his own assigned seat? (Hint: The math is not tedious!! Just simple logic!!! Test it out for small numbers and see if you can get a pattern)

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A. ½
B. 1/3
C. ¼
D. 2/3
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36. If 3*sqrt(5)+sqrt(125)=a, then what is sqrt(80)+16*sqrt(5)=



A. The relationship is Quadratic
B. The relationship is Cubic
C. The relationship is Hyperbolic
D35
41. If the relationship is hyperbolic, what is c (as in $xy=c^2$)?
in the relationship is hypercome, what is e (as in hy e 2).
A. The relationship is Quadratic
B. The relationship is Cubic
C. The relationship is Linear
D. 413
42 If -\\2\/2\colon \colon \co
42. If $x^2/3600 = 60/x$, find x?
A. 60
B. 120
C. 240
D. 600
43. What is the square root of 8+4sqrt(3)?
A 2*(
A. 2*(sqrt(5)+sqrt(3)) B. Sqrt(5)+sqrt(3)
C. Sqrt(2)+sqrt(6)
D. 2*(sqrt(2)+sqrt(6))
44. In a group of 4 boys and 6 girls, four children are to be selected. In how many
different ways can they be selected such that at least one girl should be there?
A 150
A. 159
B. 209 C. 201
D. 212

45. From a point K on a level ground, the angle of elevation of the top tower is 45°. If the

tower is 200 m high, the distance of point P from the foot of the tower is:

A. 200 B. 400 C. 346 D. 312	
46. If C=x% of y and D = y%x, then Quantity A: C Quantity B: D	
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 give	en.
47. The population of a town increased from 1, 75,000 to 2, 45,000 the average percent increase of population per year?	in a decade. What is
A. 4 B. 5 C. 3 D. 6	
48. If a and b are positive integers and sqrt $(a^6*b^4)=108$, what is	the value of a+b?
A. 4 B. 5 C. 7 D. 8	
49. Two trains running in opposite directions cross a man standing in 27 seconds and 17 seconds respectively. If they cross each of what is the ratio of their speeds?	_
A. 1:1 B. Data Insufficient C. 3:2	

- 50. Ram is able to do a piece of work in 15 days and Lakshman can do the same work in 20 days. If they can work together for 4 days, what is the fraction of work left?
- A. 8/15
- B. 7/15
- C. 11/15
- D. 2/11

Key

- 1. A
- 2. A
- 3. C
- 4. B
- 5. A
- 6. B
- 7. A
- 8. A
- 9. A
- 10. D
- 11. B
- 12. A
- 13. D
- 14. B
- 15. A
- 16. A
- 17. A
- 18. B
- 19. A
- 20. B
- 21. A
- 22. B
- 23. C
- 24. B
- 25. C
- 26. B
- 27. B
- 28. D
- 29. C
- 30. C
- 31. C
- 32. C

- 33. C
- 34. B
- 35. A
- 36. B
- 37. A
- 38. C
- 39. A
- 40. D
- 41. C
- 42. A
- 43. C
- 44. B
- 45. A
- 46. C
- 47. A
- 48. B
- 49. A
- 50. A