GRE

Quant Reasoning Assessment

Numbers, Mixtures, Word Problems

Total Questions: 64
Duration: 65 Min

QUESTION TYPE I: NUMBERS

1. **The difference of two numbers is 1365. On dividing the larger number by the smaller, we get 6 as quotient and the 15 as the remainder. What is the smallest number?**
   - **A.** 240
   - **B.** 270
   - **C.** 295
   - **D.** 360
   - **E.** 300

2. **Which one of the following numbers is exactly divisible by 11?**
   - **A.** 235641
   - **B.** 245642
   - **C.** 315624
   - **D.** 415624
   - **E.** 415627

3. **Which of the following number is divisible by 24?**
   - **A.** 35718
   - **B.** 63810
   - **C.** 537804
   - **D.** 3125736

4. **On dividing a number by 5, we get 3 as remainder. What will the remainder when the square of this number is divided by 5?**
   - **A.** 0
   - **B.** 1
   - **C.** 2
   - **D.** 4
   - **E.** 7

5. **How many 3-digit numbers are completely divisible 6?**
   - **A.** 149
   - **B.** 150
   - **C.** 151
   - **D.** 166
   - **E.** None of these

6. **How many positive integers less than 5,000 are evenly divisible by neither 15 nor 21? Select all the correct answer choices:**
   - **A.** <2000
   - **B.** <3000
   - **C.** <4000
   - **D.** >4000
   - **E.** all of the above

7. **The sum of first five prime numbers is:**
   - **A.** 11
   - **B.** 18
   - **C.** 26
   - **D.** 28
   - **E.** 29

8. **The difference between a positive proper fraction and its reciprocal is 9/20. The fraction is:**
   - **A.** 3/ 5
   - **B.** 3/10
   - **C.** 4/5
   - **D.** 4/3
   - **E.** 2/3

9. **On dividing a number by 5, we get 3 as remainder. What will the remainder when the square of this number is divided by 5?**
   - **A.** 0
   - **B.** 1
   - **C.** 2
   - **D.** 4
   - **E.** 3

10. **If the number 97215 * 6 is completely divisible by 11, then the smallest whole number in place of * will be:**
    - **A.** 3
    - **B.** 2
    - **C.** 1
    - **D.** 5
    - **E.** 6

11. Assume that x is a positive multiple of 5 and is greater than 5. If $2x + 1 < 100$, how many values for x are possible? Write the correct answer.

12. If *p* is a multiple of 3, which of the following expressions must in all cases represent a multiple of 2?

Indicate **all** such expressions.

A. 2p
B. P^2
C. P+2
D. 3p+1

13. What is the greatest value of a positive integer *n* such that 3^n is a factor of 18^{15} ?

A. 15
B. 18
C. 30
D. 33
E. 45

14. If m and n are integers divisible by 5, which of the following is not necessarily true?

A. (m – n) is divisible by 5.
B. $(m^2 – n^2)$ is divisible by 25
C. (m + n) is divisible by 10
D. None of these

15. P and Q are two positive integers such that PQ = 64. Which of the following cannot be the value of P + Q?

A. 20
B. 16
C. 65
D. 35
E. 34

16. x is a positive integer

Column 1: The number of multiple of 6 between 100 and x + 100
Column 2: The number of multiples of 9 between 100 and x + 100

A. The quantity in column 1 is greater
B. The quantity in column 2 is greater
C. The two quantities are equal
D. The relationship cannot be determined from the information given below

17. p and q are primes

$p + q = 12$

Column 1: p

Column 2: 8

A. The quantity in column 1 is greater

B. The quantity in column 2 is greater

C. The two quantities are equal

D. The relationship cannot be determined from the information given below

18. $1 < x < 4$

Column 1: πx

Column 2 : x^2

A. The quantity in column 1 is greater

B. The quantity in column 2 is greater

C. The two quantities are equal

D. The relationship cannot be determined from the information given below

QUESTION TYPE II: TIME AND DISTANCE

19. A person crosses a 600 m long street in 5 minutes. What is his speed in km per hour?

A. 3.6

B. 7.2

C. 8.4

D. 10

E. 11

20. An airplane covers a certain distance at a speed of 240 kmph in 5 hours. To cover the same distance in $1\frac{2}{3}$ hours, it must travel at a speed of:

A. 300kmph

B. 360kmph

C. 600kmph

D. 720kmph

E. 900kmph

21. If a person walks at 14 km/hr instead of 10 km/hr, he would have walked 20 km more. The actual distance travelled by him is:

A. 50km

B. 56km

C. 70km

D. 80km

E. 87km

22. A train can travel 50% faster than a car. Both start from point A at the same time and reach point B 75 kms away from A at the same time. On the way, however, the train lost about 12.5 minutes while stopping at the stations. The speed of the car is:

A. 100 kmph
B. 110kmph
C. 120kmph
D. 130kmph

23. A man completes a journey in 10 hours. He travels first half of the journey at the rate of 21 km/hr and second half at the rate of 24 km/hr. Find the total journey in km.

A. 220 km
B. 224 km
C. 230 km
D. 234 km
E. 260 km

24. The ratio between the speeds of two trains is 7: 8. If the second train runs 400 kms in 4 hours, then the speed of the first train is:

A. 70 km/hr
B. 75 km/hr
C. 84 km/hr
D. 87.5 km/hr
E. 90 km/hr

25. A man on tour travels first 160 km at 64 km/hr and the next 160 km at 80 km/hr. The average speed for the first 320 km of the tour is:

A. 35.55 km/hr
B. 36 km/hr
C. 71.11 km/hr
D. 71 km/hr
E. 73 km/hr

26. A car travelling with $\frac{5}{7}$ of its actual speed covers 42 km in 1 hr 40 min 48 sec. find the actual speed of the car.

A. 17.8 km/hr
B. 25 km/hr
C. 30 km/hr
D. 35 km/hr
E. 40 km/hr

27. In covering a distance of 30 km, Andy takes 2 hours more than Jack. If Andy doubles his speed, then he would take 1 hour less than Jack. Andy's speed is:

A. 5 kmph
B. 6 kmph
C. 6.25 kmph
D. 7.5 kmph
E. 8 kmph

28. Robert is travelling on his cycle and has calculated to reach point A at 2 P.M. if he travels at 10 kmph. He will reach there at 12 noon if he travels at 15 kmph. At what speed must he travel to reach A at 1 P.M.?

A. 8 kmph
B. 11 kmph
C. 12 kmph
D. 14 kmph
E. 17 kmph

29. It takes eight hours for a 600 km journey, if 120 km is done by train and the rest by car. It takes 20 minutes more, if 200 km is done by train and the rest by car. The ratio of the speed of the train to that of the cars is:

A. 2:3
B. 3:2
C. 3:4
D. 4:3
E. 4:5

30. A farmer travelled a distance of 61 km in 9 hours. He travelled partly on foot @ 4 km/hr and partly on bicycle @ 9 km/hr. The distance travelled on foot is:

A. 14 km
B. 15 km
C. 16 km
D. 17 km
E. 19 km

31. A man covered a certain distance at some speed. Had he moved 3 kmph faster, he would have taken 40 minutes less. If he had moved 2 kmph slower, he would have taken 40 minutes more. The distance (in km) is:

A. 35
B. 36.67
C. 37.5
D. 40
E. 41

32. If an object travels at five feet per second, how many feet does it travel in one hour?

A. 30
B. 300
C. 720
D. 1800
E. 18000

33. A car traveling at an average rate of 54 kilometers per hour made a trip in 5 hours. If it had traveled at an average speed of 60 kilometers per hour, how many minutes less would the trip have taken?
Give the correct answer.

34. 2 cars travel from the same point along parallel lanes of a highway for a distance of 10 miles. When car M, travelling at 60 miles an hour reaches the end of the distance, how much further will car N have to travel if it is travelling at 48 miles an hour?
Give the correct answer.

35. The beach resort is 2 kilometers from the city and the sports complex is 10 kilometers from the city.The city, resort and sports complex all lie at sea level.

The distance from the beach resort to the sports complex.	**7 kilometers**

A. The quantity on the left is greater
B. The quantity on the right is greater
C. Both are equal
D. The relationship cannot be determined without further information

36. Pedro travels by bus to school at an average speed of 40 kilometers per hour. He is driven home by the same route in a friend's car at an average speed of 50 kilometers per hour.

Average speed for both legs of the journey	**45**

A. The quantity on the left is greater
B. The quantity on the right is greater
C. Both are equal
D. The relationship cannot be determined without further information

QUESTION TYPE III: TIME, WORK AND MIXTURE PROBLEMS

37. Twenty women can do a work in sixteen days. Sixteen men can complete the same work in fifteen days. What is the ratio between the capacity of a man and a woman?

A. 3:4
B. 4:3
C. 5:3
D. Cannot be determined
E. None of the above

38. Suzanne and Melody can paint home in 10 and 15 days respectively. They started painting but unfortunately Suzanne has to leave after some days and Melody finished remaining task in 5 days. After how many days did Suzanne leave?

A. 10
B. 4
C. 5
D. 20
E. 6

39. Faucet A lets water flow into a 5 gallon tub at a rate of 1.5 gallons per minute. Faucet B lets water flow into the same tub at rate of 1 gallon per minute. Faucet A runs alone for 100 seconds, then the two of them together finish filling up the tub. How long does the whole operation take?

A. 120 seconds
B. 150 seconds
C. 160 seconds
D. 180 seconds
E. 190 seconds

40. Michelle can input a day's invoices into the computer system in 40 minutes, and John can input the same invoices in 60 minutes. How long will it take both of them, working simultaneously, to input the invoices?

A. 22 minutes
B. 24 minutes
C. 25 minutes
D. 30minutes
E. 35 minutes

41. Kelly and Shelley can type the manuscript in 8 hours. Kelly can type the manuscript alone in 20 hours. How long would it take Shelley to type the manuscript?

A. 13 hours and 20 minutes
B. 25 hours
C. 12 hours 40 minutes
D. 56 hours
E. 30 hours

42. If A can do a work in 30 days and B can do the same work in 45 days, then how many days will be taken by them working together to complete the work?

A. 15
B. 20
C. 14
D. 18
E. 22

43. P can complete a work in 12 days working 8 hours a day. Q can complete the same work in 8 days working 10 hours a day. If both P and Q work together, working 8 hours a day, in how many days can they complete the work?

A. $5\frac{5}{11}$

B. $5\frac{6}{11}$

C. $6\frac{5}{11}$

D. $6\frac{6}{11}$

E. $3\frac{3}{4}$

44. X and Y can do a piece of work in 20 days and 12 days respectively. X started the work alone and then after 4 days Y joined him till the completion of the work. How long did the work last?

A. 6 days
B. 10days
C. 15 days
D. 20 days
E. 25 days

45. 4 men and 6 women can complete a work in 8 days, while 3 men and 7 women can complete it in 10 days. In how many days will 10 women complete it?

A. 35
B. 40
C. 45
D. 50
E. 55

46. A, B and C can complete a piece of work in 24, 6 and 12 days respectively. Working together, they will complete the same work in:

A. $\frac{1}{24}$ day

B. $\frac{7}{24}$ day

C. $3\frac{3}{7}$ days

D. 4 days

E. 5 days

47. A and B together can do a piece of work in 30 days. A having worked for 16 days, B finishes the remaining work alone in 44 days. In how many days shall B finish the whole work alone?

A. 30 days
B. 40 days
C. 60 days
D. 70 days
E. 75 days

48. A takes twice as much time as B or thrice as much time as C to finish a piece of work. Working together, they can finish the work in 2 days. B can do the work alone in:

A. 4 days
B. 6 days
C. 8 days
D. 12 days
E. 10 days

49. A can do a certain work in the same time in which B and C together can do it. If A and B together could do it in 10 days and C alone in 50 days, then B alone could do it in:

A. 15 days
B. 20 days
C. 25 days
D. 30 days
E. 35 days

50. **Sakshi can do a piece of work in 20 days. Tanya is 25% more efficient than Sakshi. The number of days taken by Tanya to do the same piece of work is:**
    - **A.** 15
    - **B.** 16
    - **C.** 18
    - **D.** 25
    - **E.** 20

51. **A can finish a work in 24 days, B in 9 days and C in 12 days. B and C start the work but are forced to leave after 3 days. The remaining work was done by A in:**
    - **A.** 5 days
    - **B.** 6 days
    - **C.** 10 days
    - **D.** $10\frac{1}{2}$ days
    - **E.** 11 days

52. **If 6 men and 8 boys can do a piece of work in 10 days while 26 men and 48 boys can do the same in 2 days, the time taken by 15 men and 20 boys in doing the same type of work will be:**
    - **A.** 4 days
    - **B.** 5 days
    - **C.** 6 days
    - **D.** 7 days
    - **E.** 10 days

53. **If Johnny can mow the lawn in 30 minutes and with the help of his brother, Bobby, If They can mow the lawn in 20 minutes together, how long would take Bobby working alone to mow the lawn?**
    - **A.** 1/2 hour
    - **B.** 3/4 hour
    - **C.** 1 hour
    - **D.** 3/2 hours
    - **E.** 2 hours

54. **A husband and wife, started painting their house, but husband left painting 5 days before the completion of the work. How many days will it take to complete the work, which the husband alone would have completed in 20 days and wife in 15 days?**
    - **A.** 40/7 days
    - **B.** 50/7 days
    - **C.** 345/28 days
    - **D.** 55/7 days
    - **E.** 60 days

55. **X, Y and Z can finish painting a wall in 8, 10 and 12 hours, respectively. How many hours will all of them take to complete painting, working together?**
    - **A.** 130/29 hours
    - **B.** 102/35 hours
    - **C.** 120/37 hours
    - **D.** 103/28 hours
    - **E.** 140/35 hours

56. **10 men when working together can do a piece of work in 30 days and 15 women would take the same amount of time to finish the work, Calculate in how many days can the work be done by 12 men and 27 women working together?**
    - **A.** 8 days
    - **B.** 18 days
    - **C.** 15 days
    - **D.** 10 days
    - **E.** 5 days

57. **15 women can knit 6 sweaters in 20 days working 6 hours a day. Find in how many days can 20 women knit 10 sweaters working 3 hours a day?**
    - **A.** 10 days
    - **B.** 12 days
    - **C.** 50 days
    - **D.** 15 days
    - **E.** 25 days

58. **'X' men were supposed to complete a piece of work in 20 days. 5 amongst them went absent and the remaining men did the job in 30 days. Find a figure from the following that can replace 'X'.**
    - **A.** 20
    - **B.** 16
    - **C.** 15
    - **D.** 12
    - **E.** 14

59. **'X' can do 2/3 of a work in 10 days and 'Y' can do 1/4 of the work in 5 days. Find in how many days can X and Y both together completes the work?**
    - **A.** 60/7 days
    - **B.** 50/7 days
    - **C.** 80/7 days
    - **D.** 40/7 days
    - **E.** 25/7 days

60. **A tower was built by 1500 men in 30 days. In how many days can 1800 men build the same tower, if their working hours per day are reduced in the ratio 3:4?**
    - **A.** 30 days
    - **B.** 33.33 days
    - **C.** 35 days
    - **D.** 34.34 days
    - **E.** 30 days

61. **A 10 liter mixture of cranberry juice and water contains juice and water in the ratio of 3 : 2. 5 liters of the mixture are removed and replaced with pure juice and the operation is repeated once more. At the end of the two removals and replacements, what is the ratio of juice to water in the resulting mixture?**
    - **A.** 5 : 3
    - **B.** 6 : 4
    - **C.** 8 : 2
    - **D.** 17 : 3
    - **E.** 9 : 1

62. Three quarts of a bleaching chemical, Minum, contains 5 percent hydrogen peroxide and water. A different type of bleaching chemical, Maxim, which contains 20 percent hydrogen peroxide, will be mixed with the three quarts of Minum. How much of type Maxim should be added to the three quarts of Minum so that the resulting mixture contains 15 percent hydrogen peroxide?

A. 3 quarts
B. 3.75 quarts
C. 4.5 quarts
D. 6 quarts
E. 9 quarts

63. A milkman adds 5 liters of water to a certain quantity of pure milk costing $3 per liter. He sells the mixture at the same price as before and makes a profit of 20%. What is the percentage of milk in the mixture?

A. 83.33
B. 93.33
C. 73.33
D. 55
E. 68

64. If a scientist has x liters of a ethanol and benzene solution that is 15% benzene. if he wants to make the solution 10% benzene, how many of liters of ethanol must he add?

A. 3x/2
B. 5x/4
C. 2x/3
D. x/2
E. x/4