Mathematics Test I - Page 1

Select the best answer for each and write the appropriate letter in the blank.

_____1. 16 + 4 x (7 + 8) - 3 = _____?

a. 117
b. 145
c. 73
d. 65

_____2. (18 + 17) (12 + 9) - (7 x 16) (4 + 2) = _____?

a. 53
b. 63
c. 321
d. 323

_____3. The sum of 73, 2891, 406 and 98 is _____?

a. 3468
b. 3486
c. 3648
d. 4648

_____4. Which of the following numbers is divisible by 24 ?

a. 192
b. 268
c. 248
d. 596

_____5. Which of the following numbers is prime?

a. 57
b. 87
c. 89
d. 91

Civil Service Reviewer Post 1/159
Mathematics Test I - Page 2

6. The product of 18 and 73 is _____?

a. 1304
b. 1324
c. 1314
d. 1342

7. The difference of 476 and 182 is _____?

a. 654
b. 86632
c. 314
d. 294

8. Evaluate $\frac{1}{100} + \frac{2}{1000} + \frac{3}{10}$ = _____?

a. 0.213
b. 0.312
c. 0.123
d. 0.231

9. Evaluate ½ + ¼ + ⅛ _____.

a. 3/14
b. 3/16
c. 3/12
d. 7/8

10. Seventy-one and twenty-one ten thousandths is written in standard form as :

a. 71.2100
b. 71.0021
c. 71.210000
d. 71,2100

Civil Service Reviewer Post 2/159
Mathematics Test I - Page 3

11. One thousand forty two and seven thousandths written form is _____?

a. 1042.7000
b. 10,427,000
c. 1042.007
d. 1042.0007

12. $\frac{1}{3} + \frac{5}{6} + \frac{1}{2}$ = _____?

a. 1 and 2/3
b. 7/11
c. 1 and 1/3
d. 3/5

13. 3 ½ - 1 ⅔ = _____?

a. 1 and 1/6
b. 5 and 1/6
c. 6 and 1/5
d. 1 and 5/6

14. 900 x 0.09 = _____?

a. 0.81
b. 8.1
c. 81
d. 810

Civil Service Reviewer Post 3/159
Mathematics Test I - Page 4

15. $\frac{7}{8} + \frac{21}{4}$ = _____?

a. 1/6
b. 1/3
c. 1 and 1/2
d. 2/3

16. $\frac{3}{5} \times \frac{10}{3}$ = _____?

a. 13/15
b. 2
c. 1/2
d. 3/25

17. 3.156 x 0.12 = _____?

a. 0.37872
b. 3.7872
c. 37.872
d. 378.72

18. 5 ½ ÷ 2 ⅓ = _____?

a. 2 and 5/14
b. 12 and 5/6
c. 6/77
d. 2 and 2/3

Civil Service Reviewer Post 4/159
Mathematics Test I - Page 5

19. $\frac{2}{\frac{1}{2}} + \frac{4}{\frac{1}{3}}$ = _____.

a. 1 and 1/5
b. 7 and 1/5
c. 15
d. 30

20. 3% of 24 = _____?

a. 0.72
b. 7.2
c. 72
d. 720

21. 1402 + 142 + 14.2 + 1.42 = _____?

a. 15596.2
b. 1559.62
c. 155.962
d. 155962

22. 2010 x 0.0001 = _____?

a. 0.0201
b. 0.201
c. 2.01
d. 20.1

23. Find the average of 6.8, 3.5, 9.2, 7.45, and 6.05.

a. 6.0
b. 6.6
c. 66
d. 660

Civil Service Reviewer Post 5/159
Mathematics Test I - Page 6

_____24. 47 x 0.05 = _____?

a. 23.5
b. 2.35
c. 0.235
d. 0.0235

_____25. 87 / 0.01 = _____?

a. 8700
b. 870
c. 87
d. 8.7

_____26. (0.5) (5) (0.5) = _____.

a. 0.0125
b. 0.125
c. 1.25
d. 12.5

_____27. Dividing by 0.2 is the same as multiplying by _____?

a. 1/2
b. 0.5
c. 2
d. 5

_____28. 0.012 + 3 = _____?

a. 0.0004
b. 0.004
c. 0.04
d. 0.4

_____29. 2.944 + 0.23 = _____?

a. 0.128
b. 12.8
c. 1.28
d. 128

Civil Service Reviewer Post 6/159
Mathematics Test I - Page 7

30. $\frac{0.25 + 0.25 + 0.25 + 0.25}{0.25}$ = _____?

a. 0.75
b. 7.5
c. 4
d. 0.04

31. 0.0088 + 0.22 = _____?

a. 4
b. 0.4
c. 40
d. 0.04

32. (0.15 x 0.37) + (0.85 + 0.63) + (0.15 + 0.63) + (0.85 + 0.37) = _____?

a. 0.0555
b. 0.5355
c. 1
d. 0.9

33. Which of the following best approximate 68 / 0.17 = ____?

a. 0.4
b. 4
c. 40
d. 400

34. The decimal from of 11/6 is _____?

a. 1.83
b. 1.86
c. 0.83
d. 0.67

35. 5/9 of what number is 435 ?

a. 288
b. 87
c. 783
d. 29

Civil Service Reviewer Post 7/159
Mathematics Test I - Page 8

36. Which of the following fractions is the greatest?

a. 1/10
b. 0.1/0.10
c. 1/0.01
d. 1/0.001

37. 4.7 - 3.12 = _____?

a. 1.58
b. 1.62
c. 2.65
d. 1.52

38. 19.4 - 12.72 + 5 _____?

a. 1.471
b. 14.71
c. 12.68
d. 11.68

39. $\frac{27}{32} + \frac{-3}{8}$ = _____?

a. 2 and 1/4
b. -2 and 1/4
c. 4 and 1/2
d. -4 and ½

40. 2 ¾ x 4 = _____?

a. 8 and 3/4
b. 5
c. 11
d. 12

Civil Service Reviewer Post 8/159
Mathematics Test I - Page 9

_____41. $\frac{-1}{4} + \frac{5}{6}$ = _____.

a. 7/12
b. 1 and 1/12
c. 5/12
d. 1 and ¼

_____42. (-11.1) + (12.32) = _____.

a. -1.22
b. 12.2
c. 1.22
d. -12.2

_____43. What % of 50 is 15?

a. 15%
b. 25%
c. 30%
d. 35%

_____44. What % of 12 is 6 ?

a. 50%
b. 200%
c. 6%
d. 2%

_____45. 36 / 720 = _____?

a. 20
b. 200
c. 5
d. 0.05

Civil Service Reviewer Post 9/159
Mathematics Test I - Page 10

_____46. What is 1/4 % of 880?

a. 0.22
b. 2.2
c. 22
d. 220

_____47. What % of 2 and 1/2 is 1/2 ?

a. 1/2 %
b. 5%
c. 20 %
d. 25 %

_____48. 180 is 66 ⅔ % of what number?

a. 120
b. 150
c. 210
d. 270

_____49. ⅓ of what number is 42 ?

a. 7
b. 14
c. 126
d. 84

_____50. 8 ½ - 2 $\frac{5}{}$ = _____?

a. 6 and 7/24
b. [illegible] and 17/24
c. 5 and 17/24
d. 6 and 4/5

Civil Service Reviewer Post 10/159
Mathematics Test II - Page 11

Select the best answer for each and write the appropriate letter in the blank.

_____1. 27, 499 round to the nearest hundred is _____?

a. 27, 400
b. 27, 500
c. 27, 000
d. 28, 000

_____2. Twenty-four weeks is how many days?

a. 140
b. 168
c. 176
d. 196

_____3. Five hundred ninety-five days is how many weeks?

a. 119
b. 95
c. 85
d. 75

_____4. Eighteen bus loads of 56 students each went to join the Independence Day Celebration. One hundred seventy-four did not go. How many students are there in all?

a. 160
b. 1282
c. 180
d. 1182

_____5. Richard bowled 3 games and got scores of 139, 153, and 128. What was his average score for the three games?

a. 130
b. 140
c. 150
d. 160

Civil Service Reviewer Post 11/159
Mathematics Test II - Page 12

_____6. What time will it be 3 and 1/2 hours after 7:15 PM?

a. 3:45 AM
b. 10:45 AM
c. 3:45 PM
d. 10:45 PM

_____7. What time was it 3 and 1/2 hours before 7:15 AM?

a. 3:45 AM
b. 10:45 AM
c. 3:45 PM
d. 10:45 PM

_____8. The fraction 52 / 91 expressed in lowest term is _____?

a. 4/7
b. 2/3
c. 3/7
d. 7/13

_____9. Car A averages 8 km per liter of fuel. Car B averages 12 km per liter of fuel. If the price of fuel is $10 per liter. How much less would a 600 - km. trip cost for Car A than for Car B?

a. $ 250
b. $ 500
c. $ 600
d. $ 750

Civil Service Reviewer Post 12/159

_____10. Change 31/17 to a mixed number.

a. 14 and 1/17
b. 4 and 1/17
c. 2 and 3/7
d. 1 and 14/17

_____11. 40 is what part of 64?

a. 7/8
b. 3/8
c. 5/8
d. 1 and 3/5

_____12. Change 13 $\frac{3}{7}$ to an improper fraction.

a. 91/7
b. 39/7
c. 273/7
d. 94/7

_____13. What is the average speed in kph of a car travelling 160 kilometers in 5 hours?

a. 32
b. 40
c. 80
d. 90

Civil Service Reviewer Post 13/159
Mathematics Test II - Page 14

14. $\frac{3}{4} + \frac{1}{6} + \frac{1}{8}$ = _____?

a. 5/8
b. 1 and 1/24
c. 1/16
d. 3/8

15. 15 $\frac{1}{3}$ - 8 $\frac{3}{4}$ = _____?

a. 6 and 7/12
b. 7 and 2/3
c. 8 and 2/7
d. 7 and 2/7

16. 8 inches is what part of a foot?

a. 2/3
b. 7/12
c. 4/5
d. 5/6

17. If 4 workers can complete 8 identical jobs in 4 days, how long will it take 6 workers to complete 12 such jobs?

a. 3 days
b. 4 days
c. 5 days
d. 6 days

Civil Service Reviewer Post 14/159
Mathematics Test II - Page 15

_____18. A bookstore sells two kind of MSA Reviewer Books. "College Admission Test Reviewer (CATR)" and High School Entrance Test Reviewer (HSETR)". If it sells the CATR which yield a profit of $62.00 per book, and it can sell 300 books in a month. It sells the HSETR at a profit of $50.50 per book and it can sell 350books in one month. Which type of book will yield more profit per month, and by how much?

a. The HSETR will yield a greater profit by $ 925.
b. The CATR will yield a greater profit by $ 925.
c. Both books will yield exactly the same profit
d. The CATR will yield a greater profit by $ 1150.

_____19. Mr. Jose Suobiron inherited 5/8 of his father's estate. He sold 2/5 of his share. What part of the entire estate did he sell?

a. 1/2
b. 1/4
c. 2/5
d. 3/8

_____20. 13 and 1/3 ounces is what part of a pound?

(16 ounces = 1 pound)

a. 2/3
b. 5/6
c. 3/4
d. 7/8

Civil Service Reviewer Post 15/159
Mathematics Test II - Page 16

_____21. 126 is 3/7 of what number?

a. 54
b. 84
c. 119
d. 294

_____22. A roll of ribbon 51 yards long is to be divided into 408 equal parts. How many inches is the length of each part?

a. 3.5
b. 4.5
c. 5.5
d. 6.5

_____23. A water tank is 7/8 full. When 21 liters of water is drawn out, the tank is 5/8 full. What is the total capacity of the tank in liters?

a. 63
b. 84
c. 87
d. 93

_____24. A painter completes 2/9 of a job in 3 days. At this rate, how many more days will it take him to finish the job?

a. 7.5 days
b. 9.5 days
c. 10.5 days
d. 13.5 days

Civil Service Reviewer Post 16/159
Mathematics Test II - Page 17

_____25. A boy spent $320, which was 5/7 of what he had originally. How much did he have originally?

a. $ 438
b. $ 448
c. $ 476
d. $ 576

_____26. 0.0075 x 1000 = _____?

a. 0.075
b. 0.75
c. 7.5
d. 75

_____27. Express 0.572 as a common fraction in lowest term?

a. 71.5 / 125
b. 35.75 / 62.5
c. 14 / 25
d. 143 / 250

_____28. Of the following which is the closest approximation to the product 0.33 x 0.41 x 0.625 x 0.83 = _____?

a. 3/8
b. 3/4
c. 6/41
d. 5/72

Civil Service Reviewer Post 17/159
Mathematics Test II - Page 18

_____29. Dividing by 0.125 is the same as multiplying by _____?

a. 3/8
b. 1/4
c. 1/8
d. 8

_____30. If a copper wire is 3.7 feet long, its length in inches is _____?

a. less than 40
b. between 40 and 44
c. between 44 and 45
d. more than 45

_____31. $\frac{9}{0.09 \times 0.9}$ = _____?

a. 9/1000
b. 9/100
c. 100/9
d. 1000/9

_____32. How much money can be saved by buying 72 pens at $90 per dozen than buying them for $7.75 each?

a. $ 0.25
b. $ 3.00
c. $ 12.00
d. $ 18.00

Civil Service Reviewer Post 18/159
Mathematics Test II - Page 19

_____33. Two countries produce 1/8 and 3/10 respectively of the world production of aluminum. What fraction of the world production do the two nations produce together?

a. 7/40
b. 3/40
c. 17/40
d. 21/40

_____34. Of 20 is 25 % of x + 7, then x = _____?

a. 73
b. 80
c. 87
d. 93

_____35. If 5 x 5 x Z = 15 x 15 x 15, then Z = _____?

a. 45
b. 30
c. 105
d. 135

_____36. The morning class in school begin at 8:05 AM and end at 12:00 noon. There are five class periods of 45 minutes each with equal intervals between classes. How many minutes are there in each interval?

a. 2
b. 2.5
c. 3
d. 4.5

Civil Service Reviewer Post 19/159
Mathematics Test II - Page 20

_____37. Every seat in a bus was taken and 7 people were standing. At the next stop 15 people got off and 3 got on. How many seats were empty after this stop if everyone was seated?

a. 3
b. 5
c. 7
d. 10

_____38. A boy scored 134, 145, and 150 in his first 3 games. What score must he make on his next game so that his average for the four games will be 149?

a. 163
b. 165
c. 167
d. 170

_____39. Angelo can type 9 pages in 12 minutes. How many pages can he type in 8 hours at the same rate?

a. 180
b. 360
c. 390
d. 540

_____40. Girlie starts cleaning the yard at 10 AM and by 11:20, she has finished 4/5 of it. If she continues working at the same rate, at what time will she finish cleaning the yard?

a. 11 : 10 AM
b. 12 : 20 AM
c. 11 : 40 AM
d. 11 : 52 AM

Civil Service Reviewer Post 20/159
Mathematics Test II - Page 21

_____41. If 3/8 of a certain number is 2/5, what is 3/4 of that same number?

a. 1/5
b. 2/5
c. 3/5
d. 4/5

_____42. A bus travels 240 kilometers at 60 kph and then returns at 40 kph. What is the average speed in kilometers per hour for the round trip?

a. 48
b. 49
c. 50
d. 52

_____43. Mr. Albelda drives his car at the rate of 60 miles per hour. What is his rate in feet per second?

a. 66
b. 76
c. 86
d. 88

_____44. What is 0.05 percent of 6.5 ?

a. 0.00325
b. 0.0325
c. 0.325
d. 3.25

_____45. At Rosa Alvero Street, in Loyola Heights there are 8 towns houses and 52 private individualhomes. What is the ratio of town houses to private individual homes?

a. 2 : 27
b. 2 : 13
c. 1 : 13
d. 4 : 13

Civil Service Reviewer Post 21/159
Mathematics Test II - Page 22

_____46. If it takes 16 pipes 10 hours to fill 8 tanks, how long will it take 12 pipes to fill 9 tanks?

a. 10 hours
b. 12 hours
c. 13 hours
d. 15 hours

_____47. Mr. Cruz borrows $360,000. If he pays back $378,000 after one year, what is his interest rate?

a. 1.5%
b. 4.5%
c. 5%
d. 7.5%

_____48. If 6 men need $3,600 worth of food for a three-day camping trip, how much will 2 men need for a 15-day trip?

a. $ 3, 600
b. $ 4, 800
c. $ 5, 400
d. $ 6, 000

_____49. What is 6% of 2.5 ?

a. 5/3 %
b. 15
c. 3/20
d. 3/5

_____50. What is the value of 60 x 31 x 36 x 7 ?

a. 468, 720
b. 468, 721
c. 468, 722
d. 468, 723

Civil Service Reviewer Post 22/159
Mathematics Test III - Page 23

Select the best answer for each and write the appropriate letter in the blank.

_____1. If 9x - 7 = 18y then $\frac{9x - 7}{6}$ = _____?

a. 2y
b. 3y
c. 6y
d. y + 6

_____2. A student buys an MSA Reviewer Book for $175 after receiving a discount of 12.5%. What was the marked price?

a. $ 187.50
b. $ 200
c. $ 225
d. $ 250

_____3. A town house unit was sold fir $2.50 M, yielding a 25% profit. For how much would it be sold to yield only a 10% profit on the cost?

a. $ 2M
b. $ 2.25M
c. $ 2.2M
d. $2.45M

_____4. What single discount is equivalent to successive discounts if 5% and 10%?

a. 10.5%
b. 12.5%
c. 14.5%
d. 15%

_____5. How many miles are there in 40 kilometers?

a. 25
b. 64
c. 32
d. 60

Civil Service Reviewer Post 23/159
Mathematics Test III - Page 24

_____6. If water tank can be filled 1 and 3/4 hours. What part of the tank can be filled in exactly 1 hour?

a. 1/2
b. 3/4
c. 4/7
d. 1

_____7. If 5 items cost d dollars how much would x items cost at the same rate?

a. p / 5x
b. 5 / px
c. x / 5p
d. px / 55

_____8. In a group of 8, 000 applicants for a civil service examination, 1600 failed to take the first part of the test. What percent of the total applicants took the first part of the test?

a. 20%
b. 30%
c. 40%
d. 80%

_____9. If the ratio a : b is 11 : 9, then a + b is _____?

a. 9
b. 11
c. 20
d. can't be determined from the given information

Civil Service Reviewer Post 24/159
Mathematics Test III - Page 25

_____10. If 4 men can paint a fence in 2 days, what part of the job can be completed by one man in 8 days?

a. 1/4
b. 1/2
c. 3/4
d. whole job

_____11. Of John's salary, 1/10 is spent for clothing, and 1/4 for board and lodging. What part of the salary is left for other expenditures and savings?

a. 3/5
b. 13/20
c. 7/10
d. 2/5

_____12. Which of the following fractions is closest to 1/3 ?

a. 1/5
b. 2/5
c. 2/3
d. 3/5

_____13. Write 0.5 % as decimal.

a. 5
b. 0.5
c. 0.05
d. 0.005

Civil Service Reviewer Post 25/159
Mathematics Test III - Page 26

_____14. If 10 parts of alcohol is mixed with 15 parts of water, what part of the mixture is alcohol?

a. 2/3
b. 2/5
c. 1/3
d. 3/5

_____15. If 2/5 of the workers in a factory go on vacation is September and 1/3 of the remainder take their vacation in October, what fraction of the workers take their vacation in some other time?

a. 2/5
b. 1/3
c. 1/15
d. 4/15

_____16. A bill was passed by a vote of 7 : 5 . What part of the vote counts were in favor of the bill?

a. 5/7
b. 7/12
c. 5/12
d. 7/5

_____17. If a man travels for half of an hour at 60 km/hr, and for quarter of an hour for 120 km/hr, what is his average speed?

a. 80 kph
b. 90 kph
c. 100 kph
d. 120 kph

Civil Service Reviewer Post 26/159
Mathematics Test III - Page 27

_____18. What part of an hour elapses between 9:52 AM and 10:16 AM ?

a. 2/5
b. 1/3
c. 1/6
d. ¼

_____19. If the ratio of boys to girls is 3 : 7 . If the class has 40 students, how many additional boys are needed to enroll to make the ratio 2 : 1 ?

a. 11
b. 33
c. 44
d. 50

_____20. If 45 feet of uniform wire weigh 5 kilograms, what is the weight of 30 yards o the same wire?

a. 5 kg
b. 10 kg
c. 15 kg
d. 20 kg

_____21. A school has enough oatmeal to feed 15 children in 4 days. If 5 more children are added, how many days will the oatmeal last ?

a. 3
b. 12
c. 1 ⅓
d. 5 ⅓

Civil Service Reviewer Post 27/159
Mathematics Test III - Page 28

_____22. If a car can travel 60 km on 12 liters of gasoline, how many liters will be needed in a 210 km trip ?

a. 30
b. 42
c. 45
d. 50

_____23. Write 7.5% as a fraction.

a. 3/4
b. 3/40
c. 3/400
d. 3/4000

_____24. Write 3/8 % as decimal.

a. 0.00375
b. 0.0375
c. 0.375
d. 3.75

_____25. Find 40% of 60.

a. 0.24
b. 2.4
c. 24
d. 240

Civil Service Reviewer Post 28/159
Mathematics Test III - Page 29

_____26. Find 70% of 60.

a. 420
b. 4.2
c. 4200
d. 42

_____27. What is 175% of 24 ?

a. 0.42
b. 4.2
c. 42
d. 420

_____28. What percent of 60 is 42 ?

a. 0.7
b. 7
c. 70
d. 1.428

_____29. 54 is 20% of what number ?

a. 2.7
b. 270
c. 10.8
d. 108

_____30. 24 is 150% of what number ?

a. 8
b. 12
c. 16
d. 18

Civil Service Reviewer Post 29/159
Mathematics Test III - Page 31

_____35. A basketball team has won 24 games out of 36 games played. It has 24 more games to play. How many of these must the team win to make its record 80% for the season ?

a. 12
b. 18
c. 18
d. 24

_____36. If prices are reduced by 25% sales increased by 33 ⅓ % what is the net effect on gross revenue ?

a. they increase by 8 and 1/3
b. they decrease by 8 and 1/3
c. they remain the same
d. they increase by 10%
e.

_____37. An 8-meter rope is cut so that one part is 3/5 of the other. How long in meters, is the shorter segment ?

a. 2
b. 3
c. 4
d. 5

_____38. When the gasoline gauge of an automobile shows 1/8 full, 52.5 liters is needed to completely fill the gasoline tank. What is the capacity, in liters of the gasoline tank?

a. 48
b. 50
c. 56
d. 60
e.

Civil Service Reviewer Post 31/159
Mathematics Test III - Page 32

_____39. What part of gallon is 7 pints, given that 1 quart = 2 pints, 4 quarts = 1 gal. ?

a. 7/8
b. 7/16
c. 7/4
d. ¾

_____40. If 7 is added to four times a number, the result is 91. What is the number ?

a. 21
b. 42
c. 32
d. 56

_____41. The area of a square is 36 sq. cm. What is the perimeter of the square ?

a. 6 cm
b. 24 cm
c. 30 cm
d. 36 cm

_____42. A truck can carry a load of 8 / 9 tons. How many trips must the truck make to deliver 10 and 2 / 3 tons of sand?

a. 8
b. 9
c. 10
d. 12

Civil Service Reviewer Post 32/159
Mathematics Test III - Page 33

_____43. What is the value of $\frac{6a^2b^3}{9}$ if a = 2 and b = 3 ?

a. 18
b. 24
c. 36
d. 72

_____44. $Z + \frac{4}{Z} = 4$, then Z = _____?

a. 1
b. 2
c. -1
d. -2

_____45. $\frac{1}{x} + \frac{1}{\frac{1}{x}}$ = _____ ?

a. 1
b. $1/x^2$
c. x^2
d. 2x

_____46. $x\sqrt{0.0004} = 4 : x$ = _____ ?

a. 80
b. 100
c. 200
d. 400

Civil Service Reviewer Post 33/159
Mathematics Test III - Page 34

47. A piece of wire is cut into three, so that the first is three times as long as the second and the second is three times as long as the third. What part of the entire piece is the shortest?

a. 1/9
b. 1/10
c. 1/13
d. 1/15

48. What is the average of the first 20 positive integers ?

a. 9
b. 9.5
c. 10
d. 10.5

49. A sales representative earns 5% commission on all sales between $ 20, 000 and $ 60, 000, and 8% on all sales over $ 60,000. What is the commission in a week in which her total sales was $ 80, 000 ?

a. $ 3, 600
b. $ 4, 600
c. $ 5, 600
d. $ 6, 400

50. $\sqrt{\frac{12}{27} + \frac{12}{9}}$

a. 16/9
b. 4/3
c. 3/4
d. 9/16

Civil Service Reviewer Post 34/159
Mathematics Test IV - Page 35

Select the best answer for each and rite the appropriate letter in the blank.

_____1. A car that cost $ 1.2 M can be sold for $ 600, 000 after 5 years of use. What will be the yearly depreciation cost ?

a. $ 100, 000
b. $ 12, 000
c. $ 120, 000
d. $ 600, 000

_____2. How many times does the digit 7 appear in the numbers from 1 to 100 ?

a. 9
b. 10
c. 19
d. 20

_____3. At the rate of $ 44 per hundred sheets of colored bond paper, how much is the cost of 500 sheets ?

a. $ 121
b. $ 242
c. $ 440
d. $ 480

_____4. At $ 25 per board foot of wood, what is the cost of 15 pieces of 2" x 2" x 12' ?
(1 board foot = 1 ft. x 1 ft. x 1 inch)

a. $ 18, 000
b. $ 15, 000
c. $ 1, 250
d. $ 1, 500

_____5. The decimal form of 0.56 % is _____ ?

a. 0.0056
b. 0.056
c. 0.56
d. 56

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Mathematics Test IV - Page 36

_____6. If 3 feet = 1 yard, how many yards are there in 27 feet ?

a. 9
b. 81
c. 24
d. 12

_____7. How many feet are there in 9 and 1/3 yards ?

a. 9
b. 10
c. 12
d. 28

_____8. A hand-carved wooden dining set is priced at $69, 950. If 20% discount is given to the customer, how muchwould he have to pay for the set ?

a. $ 53, 960
b. $ 54, 960
c. $ 55, 960
d. $ 56, 960

_____9. If an article priced at $99.80 is subjected to a 10% VAT, what would be the total amount to be paid for the article ?

a. $ 89.82
b. $ 109.78
c. $ 109.80
d. $ 110.78

_____10. Find the cost of 6 and 1/2 dozen eggs at $ 30.00 per dozen.

a. $ 186
b. $ 190
c. $ 194
d. $ 195

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Mathematics Test IV - Page 37

_____11. A lady employee purchased an umbrella for $ 180 less 20%. How much should she pay if its is subject to a 5 % sales tax ?

a. $ 151.20
b. $ 153
c. $ 160
d. $ 165

_____12. Mr. Mansueto Velasco Jr. is buying a piece of lot at Filinvest Homes East. The dimension of the rectangular lot is 14 meters by 30 meters at $ 3, 500 per square meters, what would be the total cost of the lot ?

a. $ 308, 000
b. $ 105, 014
c. $ 735, 000
d. $ 1, 470, 000

_____13. How much must a salesman sell in a month to yield him a commission of $ 12, 000, if his rate of commission is 5% on goods sold ?

a. $ 12, 000
b. $ 60, 000
c. $ 240, 000
d. $ 24, 000

_____14. How much would Charlie receive from his monthly salary of $ 8,000 after deducting 2 and 1/2 % for SSScontribution and 5% withholding tax ?

a. $ 7, 400
b. $ 7, 500
c. $ 7, 850
d. $ 7, 950

Civil Service Reviewer Post 37/159
Mathematics Test IV - Page 38

_____15. A student had $ 1, 050 in his wallet. He spent $ 640 for books and school supplies. What part of his money did he spend?

a. 2/5
b. 3/5
c. 2/3
d. ¾

_____16. MS. Cecille Garcia saves 18% of her monthly salary of $ 16, 500. How much does she saved in a year?

a. $ 34, 460
b. $ 35, 460
c. $ 110, 000
d. $ 260, 000

_____17. Mrs. Leny Ngo wishes to buy a second hand car, the cash price of which is $ 150, 000. Not having ready cash she agrees to pay 1/3 down and the balance in 10 monthly installments of 11, 000 each. What is the total price of the car ?

a. $ 160, 000
b. $ 170, 000
c. $ 110, 000
d. $ 260, 000

_____18. A cross-stitch store owner buys cross-stitch frame at $ 12, 500 each. How much should he sell each in order to realize a profit of 3/20 more than the buying price ?

a. $ 12, 750
b. $ 13, 375
c. $ 13, 350
d. $ 14, 375

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Mathematics Test IV - Page 39

_____19. This year XYZ company's profit was $ 2, 440, 000, which is 22% more than last year's profit. How much was the profit last year ?

a. $ 1, 220, 000
b. $ 2, 000, 000
c. $ 1, 880, 000
d. $ 1, 900, 000

_____20. Mrs. Ramos pays $ 1, 530 for a dress at 15 % discount. How much is the marked price ?

a. $ 1, 545
b. $ 1, 600
c. $ 1, 800
d. $ 1, 750

_____21. A customer buys 4 pairs of socks originally priced at $ 60.00 each. If the reduced price is $ 47.50, how much does he save on this purchase ?

a. $ 50
b. $ 60
c. $ 65
d. $ 70

_____22. Gerard left City A to drive to City B at 6:15 A.M. and arrived at 1:45 P.M. If he averaged 60 km per hour and stopped one hour for lunch, how far is City A to City B ?

a. 390 km
b. 420 km
c. 450 km
d. 270 km

Civil Service Reviewer Post 39/159
Mathematics Test IV - Page 40

23. The sum of $\sqrt{81} + \sqrt{100}$ is _____ ?
a. $\sqrt{181}$
b. 10
c. 9
d. 19

24. The sum of three consecutive integers is 54. Find the smallest integer.
a. 16
b. 17
c. 18
d. 19

25. How many miles does a car travel if it averages at a rate of 35 miles per hour for 3 hours and 24 minutes?
a. 109
b. 112
c. 113
d. 119

26. Elmer can deliver newspaper in his route for 1 ½ hours. Wowie who takes his place one day finds that it takes him 1 ½ longer to deliver these. How long will it take to deliver the papers if they work together ?
a. 1 hour
b. 1 hour 15 minutes
c. 1 hour 20 minutes
d. 3 hours

27. If it takes h hours to paint the wall, what part of the wall is painted in one hour ?
a. h
b. 1/h
c. hx
d. x/h

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Mathematics Test IV - Page 41

28. A sock of corn will feed 18 ducks for 54 days. How long will it feed 12 ducks ?

a. 36
b. 60
c. 72
d. 81

29. Find the next number in the series 1, 4, 9, 16, _____ ?

a. 20
b. 25
c. 26
d. 30

30. A bag is sold for $680 while marked at $800. What was the rate of the discount ?

a. 12%
b. 15%
c. 20%
d. 25%

31. Six hundred examinees passed the Licensure Examination last year. This represents the 8 ½ percent of the total examinees. How many examinees failed the exam?

a. 6,000
b. 6,200
c. 6,600
d. 7,200

32. If 4 miles = 6.44 km, then 14.49 km equals how many miles ?

a. 7
b. 8
c. 9
d. 10

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Mathematics Test IV - Page 42

_____33. $(a^2 - 4b^2)c$ is equivalent to ac + _____ ?

a. 2bc
b. -2bc
c. 2b
d. -2b

_____34. In a certain class the ratio of boys to girls is 4 : 5. If the class has 54 students, how many are girls ?

a. 24
b. 30
c. 12
d. 27

_____35. Solve for x : ax = bx + cx - d, a ≠ b ≠ c.

a. $\frac{d}{a - b - c}$

b. $\frac{d}{b - a - c}$

c. $\frac{d}{b + c - a}$

d. $\frac{d}{b - c - a}$

_____36. The ratio of men athlete to women in an athletic meet is 5 : 3 and the total number of athlete is 2, 400, how many additional women athlete would have to join to make the ratio of men to women 1 : 1 ?

a. 6
b. 400
c. 600
d. 1, 200

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Mathematics Test IV - Page 43

_____37. If prices are reduced by 20 %, quantity sold increase by 25 %. What is the net effect on the gross revenue?

a. It increases by 5%
b. It decreases by 5%
c. It remains the same
d. It increases by 10%

_____38. The average of three numbers is xyz. If the sum of two numbers is x + y, what is the other number?

a. 3xyz - (x+y)
b. xyz - (x+y)
c. z
d. can't be determined from the given information

_____39. When + 13 is added to - 15, the sum is _____ ?

a. -2
b. 2
c. -18
d. 18

_____40. When -15 is subtracted from -18, the difference is _____?

a. -3
b. 3
c. 33
d. -33

_____41. When the product of (-4) and (-17) is divided by 2, the quotient is _____ ?

a. -34
b. 34
c. 68
d. -66

Civil Service Reviewer Post 43/159
Mathematics Test IV - Page 44

_____42. If 5x + 17 = 32, then x = _____ ?

a. 9.8
b. -9.8
c. 3
d. -3

_____43. Solve for M :

$\frac{M}{7} - \frac{M}{3} = 4$

a. 21
b. -21
c. -1
d. 1

_____44. If x + y = 4a and x - y = 2b then y = _____ ?

a. b - 2a
b. 2a - b
c. 2a + b
d. a - 2b

_____45. If 0.37 m = 0.0111 then m = _____ ?

a. 0.03
b. 0.3
c. 3
d. 30

_____46. If 1 / M = 4 and S = 2, what is S in terms of M ?

a. 1 / 2M
b. -2M
c. -(1/2M)
d. 2M

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Mathematics Test IV - Page 45

_____47. A horse is tied to a pole with a rope of 7 meters long. How much grazing area does it have?

a. 154 sq. m.
b. 164 sq. m.
c. 314 sq. m.
d. 174 sq. m.

_____48. What number is missing in this sequence : 5, 7, 11, 17, _____ ?

a. 22
b. 23
c. 25
d. 27

_____49. How many two-digit numbers can be formed from the digits 1, 2, 3, 4, and 5 if a digit cannot be used more than once?

a. 10
b. 15
c. 20
d. 25

_____50. What is the value of x in 5 : x = x : 125 ?

a. 5
b. 15
c. 20
d. 25

_____51. If one bilao of pansit guisado serves 7 people, how many bilaos are needed to serve a banquet of 126 people?

a. 15
b. 16
c. 17
d. 18

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Mathematics Test IV - Page 46

_____52. If x = 8, which of the following has the least value?

a. x -3
b. 3/x
c. x/3
d. 3 - x

_____53. If rain is pouring at the rate of 3 inches per hour, how many inches will it pour in 15 minutes?

a. 1/36
b. 3/4
c. 45
d. 5

_____54. If (18 x 3) + a = 6 then a - 9 = _____?

a. 0
b. 1
c. 9
d. 10

_____55. If a = 3, b = 2, and c =4, then the value of (ac - bc) ÷ (a+b+c) = _____?

a. 4/9
b. 2/3
c. 3/8
d. ½

Civil Service Reviewer Post 46/159
Mathematics Test V - Page 47
Select the best answer for each and write the appropriate letter in the blank.

_____1. What number is as much more than 8 as it is less than 32 ?

a. 20
b. 40
c. 60
d. cannot be determined from the given information

_____2. A container van that is 3 meters wide, 5 meters long and 4 meters high will transport 200 crates whose volume is 6 cubic meters. How many trips will it take to transport all the crates?

a. 20
b. 25
c. 30
d. 35

_____3. A rectangular block of copper, with dimensions 4m x 6m x 9m, is melted and recast into a cubical block. Find the length of the side of the cubical block.

a. 4 cm
b. 6 cm
c. 9 cm
d. 12 cm

_____4. There are 9 male teachers for every 14 female teachers. If there are 69 teachers in all, how many teachers are female?

a. 18
b. 27
c. 39
d. 42

_____5. What would be the closest approximation to $\sqrt{66}$?

a. 7.9
b. 8
c. 8.1
d. 8.9

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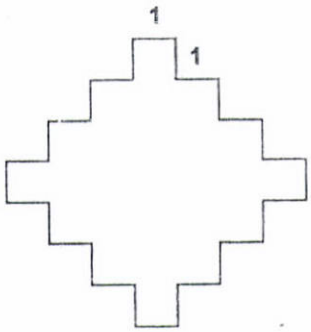
Mathematics Test V - Page 48

_____6. Manny can do a certain job in 1 day, Anna can do the same job in 2 days, and Josie can do the job in 3 days. How many days will it take them to do the job if they work together?

a. 1/6
b. 1/3
c. 6/11
d. ½

_____7. In the figure, all the line segments meet at right angles and each segments has a length of 1 unit. What is the area of the figure in square units?

Figure for No. 7



a. 9
b. 12
c. 16
d. 25

_____8. If $x - 3 = y$, then $(y - x)^3 =$ _____ ?

a. 9
b. -27
c. 27
d. 81

_____9. A speed of 90 km per hour is equivalent to how many meters per second?

a. 20
b. 25
c. 30
d. 45

_____10. A rectangular sheet of cardboard 5 inches long and 4 inches wide is cut into squares one inch on a side. What is the maximum number of such squares that can be formed?

a. 18
b. 20
c. 9
d. 16

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Mathematics Test V - Page 49

_____11. A housewife bought 3 kilograms of beef priced at $ 108.75 per kilogram. How much change did she receive from a five-hundred dollar bill?

a. $ 163.25
b. $ 193.75
c. $ 173.75
d. $ 180.25

_____12. A delivery of 480 baskets of mangoes is divided into two fruit stands so that the difference between the two orders is 1/3 their average. What is the ratio of the smaller to the larger amount?

a. 5 : 7
b. 5 : 9
c. 5 : 12
d. 2 : 3

_____13. When the first and the last digits of 2, 836 are interchanged, the new number is _____.

a. 3996 more than 2, 836
b. 3996 less than 2, 836
c. 1404 more than 2, 836
d. 1404 less than 2, 836

_____14. If twice the value of a certain number is increased by 8 the result is 40. What is the number?

a. 8
b. 16
c. 24
d. 32

_____15. In a group of 120 persons, there are 32 more women than men. How many women are there in the group?

a. 44
b. 76
c. 88
d. 92

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Mathematics Test V - Page 50

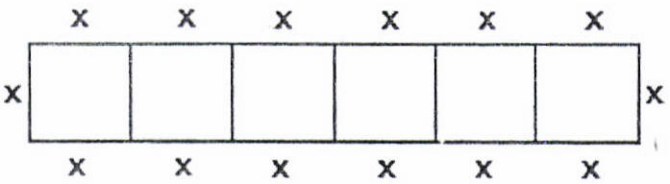
_____16. If the dimensions of a square change in such a manner that the area remains constant, what must happen to the other side if one side will be increased by 1/4 of itself?

a. it decreases by 1/5
b. it decreases by 1/4
c. it decreases by 1/3
d. it decreases by ½

_____17. A man rowed 4 miles upstream for 2 hours. If the river flowed with a current of 2 miles per hour, how long did the man's return trip take?

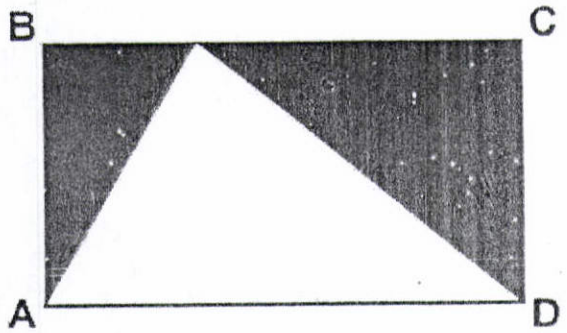
a. 1/3 hour
b. 1/2 hour
c. 2/3 hour
d. 1 hour

_____18. The rectangle shown in the figure is divided into 6 equal squares. If the perimeter of the rectangle is 42 cm, what is the area of each square in cm^2 ?



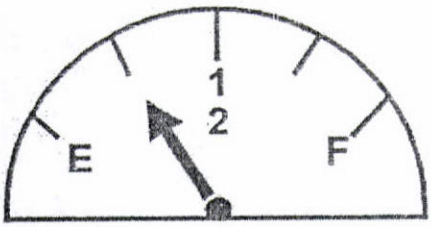
a. 6
b. 9
c. 12
d. 15

_____19. If the area of the rectangle ABCD shown below is 36 units, how many square units is the area of the shaded region?



a. 12
b. 16
c. 18
d. 24

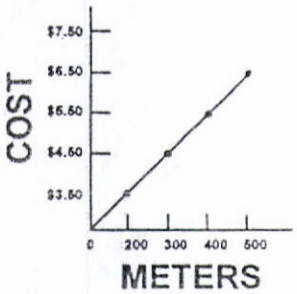
_____20. This tank holds 48 liters of gasoline and the car averages 5 kilometers per liter. Approximately how many kilometers can a car travel this given guage?



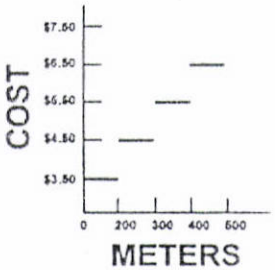
a. 12
b. 24
c. 30
d. 60

_____21. Which of the following graphs represents the taxi rates for a company that charges $ 3.50 for the first 200 meters and $ 1.00 for each additional 100 meters?

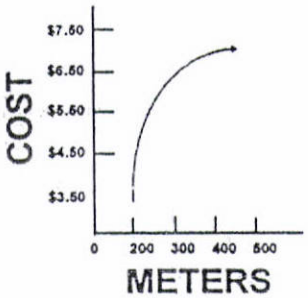
a.



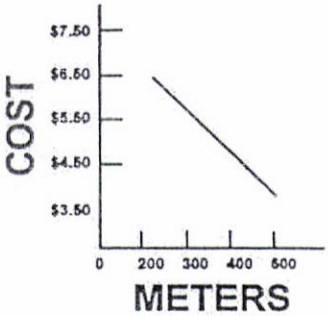
b.



c.



d.



_____22. A laboratory assistant was preparing a solution that should have included 40 milligrams of chemical. If he actually used 41.30 milligrams, what was his percentage error (to the nearest 0.01 %)?

a. 0.0325%
b. 0.325%
c. 3.25%
d. 32.5%

_____23. Menthol drops come in packs of 8 for $ 3.60. Butterballs come in packs of 6 for $ 2.25. Aida bought 48 pieces of candy. How many of each kind of candy did she buy, if she spent $ 19.80?

a. 6 packs of Menthol drops and no Butterballs
b. 3 packs of Menthol drops and 4 packs of Butterballs
c. 8 packs of Butterballs and no Menthol drops
d. Choices A, B, and C are possibilities

Use the following table for questions 24 and 25.

TAX TABLE I						
(FOR COMPENSATION INCOME)						
If taxable income is :				Tax Due is :		
		NOT OVER $	2,500	0 %		
OVER $	2,500	BUT NOT OVER $	5,000	1 %		
OVER $	5,000	BUT NOT OVER $	10,000	$ 25 + 3 %	OF EXCESS OVER $	5,000
OVER $	10,000	BUT NOT OVER $	20,000	$ 175 + 7 %	OF EXCESS OVER $	10,000
OVER $	20,000	BUT NOT OVER $	40,000	$ 875 + 11 %	OF EXCESS OVER $	20,000
OVER $	40,000	BUT NOT OVER $	60,000	$ 3,075 + 15 %	OF EXCESS OVER $	40,000
OVER $	60,000	BUT NOT OVER $	100,000	$ 6,075 + 19 %	OF EXCESS OVER $	60,000
OVER $	100,000	BUT NOT OVER $	250,000	$ 13,675 + 24 %	OF EXCESS OVER $	100,000
OVER $	250,000	BUT NOT OVER $	500,000	$ 49,675 + 29 %	OF EXCESS OVER $	250,000
OVER $	500,000	BUT NOT OVER $		$ 122,175 + 35 %	OF EXCESS OVER $	500,000

_____24. How much tax is due on a taxable income of $65, 000?

a. $ 6, 075
b. $ 6, 050
c. $ 6, 094
d. $ 7, 025

_____25. How much tax is due on a taxable income of $55, 000?
a. $ 4, 575
b. $ 5, 325
c. $ 6, 825
d. $ 18, 075

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Mathematics Test V - Page 53

_____26. Anabelle paid $ 19, 675 tax. If x was her income, which of the following statements is TRUE?

a. $ 60, 000 < x < $ 100, 000
b. $ 100, 000 < x < $ 250, 000
c. $ 40, 000 < x < $ 60, 000
d. $ 250, 000 < x < $ 500, 000

_____27. Mang Pablo decided to keep a record of the money he collects from his newspaper route. Using theinformation given, how much money does Mang Pablo collect in the month of February? (Note : Assume that February has 28 days and the February 1 was on a Sunday).

DELIVERY	WEEKLY RATE		NUMBER OF CUSTOMERS	INCOME
Daily Except Sunday	$ 42	x	75	$ 3, 150
Sunday Only	$ 10	x	60	$ 600
all week (daily and Sunday)	$ 52	x	120	$ 6, 240

a. $ 9, 990
b. $ 19, 980
c. $ 39, 960
d. $ 49, 950

_____28. If 10 soldiers can survive for 12 days in 15 packs of rations, how many packs will be needed for 8 men tosurvive for 18 days?

a. 16 packs
b. 17 packs
c. 18 packs
d. 19 packs

_____29. If it takes Victor twice as long to earn $ 600 as it takes Warnen to earn $ 400, what is the ratio of Victor's per day to Warnen's pay per day?

a. 3 : 1
b. 3 : 2
c. 3 : 4
d. 4 : 3

Civil Service Reviewer Post 53/159
Mathematics Test V - Page 54

Use the following table for the question 30 to 32.

TYPE OF VEHICLE - COST OF FUEL FOR 100 - KM TRIP					
car	-	$ 500	truck	-	$ 2, 000
motorcycle	-	$ 175	airplane	-	$ 3, 000
bus	-	$ 875			

_____30. What is the cost of fuel for a 120-km trip by car?
a. $ 400
b. $ 480
c. $ 520
d. $ 600

_____31. If the total wages of a bus driver for 100-km trip is $ 970, and the only cost for a bus are the fuel and the driver's wage. How much should a bus company charge to charter a bus with a driver for a 200-km trip in order to obtain 50% more than the cost?
a. $ 2, 330
b. $ 5, 535
c. $ 2, 720
d. $ 2, 767.50

_____32. If 5 buses, 9 cars, 4 motorcycles make a 100-km trip. What is the average fuel cost per vehicle?
a. $ 521.94
b. $ 526.67
c. $ 531.94
d. $ 516.67

_____33. A store owner bought 2 dozen cans of corned beef at $ 30 each. He sold two-thirds of them at 25% profit but was forced to take a 30% loss on the rest. What was his total profit (or loss) on the item?
a. a loss of $ 48
b. a gain of $ 48
c. no gain or loss
d. gain of $ 4

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Mathematics Test V - Page 55

Use the table below for questions number 34 to 36.

	% OF PROTEIN	% OF CARBOHYDRATES	% OF VITAMINS	COST PER 100 GRAM
Salad A	20	15	40	$ 25.00
Salad B	10	25	30	$ 30.00
Salad C	20	10	50	$ 35.00

_____34. The cost of x purchasing grams of Salad A, y grams of Salad B and z grams if Salad C will be _____.
a. (25x + 30y + 35z) pesos
b. 90 xyz pesos
c. (25x + 30y + 35z) cents
d. (5x + 6y + 7z) dollars

_____35. Which of the following diets would supply the most grams of vitamins?
a. 500 grams of Salad A
b. 400 grams of Salad B
c. 200 grams of Salad A, 100 grams of Salad B and 200 grams of Salad C
d. 200 grams of Salad A, 50 grams of Salad B and 200 grams of Salad C

_____36. All of the following diets would supply at least 85 grams of carbohydrates. Which of the diets costs the least?
a. 100 grams of Salad A, 200 grams of Salad B and 300 grams of Salad C.
b. 300 grams of Salad A, 100 grams of Salad B and 200 grams of Salad C.
c. 200 grams of Salad A, 100 grams of Salad B and 300 grams of Salad C.
d. 100 grams of Salad A, 300 grams of Salad B and 200 grams of Salad C.

Civil Service Reviewer Post 55/159
Mathematics Test V - Page 55

Use the table below for questions number 34 to 36.

	% OF PROTEIN	% OF CARBOHYDRATES	% OF VITAMINS	COST PER 100 GRAM
Salad A	20	15	40	$ 25.00
Salad B	10	25	30	$ 30.00
Salad C	20	10	50	$ 35.00

_____34. The cost of x purchasing grams of Salad A, y grams of Salad B and z grams if Salad C will be _____.
a. (25x + 30y + 35z) pesos
b. 90 xyz pesos
c. (25x + 30y + 35z) cents
d. (5x + 6y + 7z) dollars

_____35. Which of the following diets would supply the most grams of vitamins?
a. 500 grams of Salad A
b. 400 grams of Salad B
c. 200 grams of Salad A, 100 grams of Salad B and 200 grams of Salad C
d. 200 grams of Salad A, 50 grams of Salad B and 200 grams of Salad C

_____36. All of the following diets would supply at least 85 grams of carbohydrates. Which of the diets costs the least?
a. 100 grams of Salad A, 200 grams of Salad B and 300 grams of Salad C.
b. 300 grams of Salad A, 100 grams of Salad B and 200 grams of Salad C.
c. 200 grams of Salad A, 100 grams of Salad B and 300 grams of Salad C.
d. 100 grams of Salad A, 300 grams of Salad B and 200 grams of Salad C.

Civil Service Reviewer Post 55/159
Mathematics Test V - Page 56

_____37. If jackfruits are twice as expensive as watermelons, and watermelons are one-third as expensive as durians. What is the ratio of the price of one jackfruit to one durian?

a. 3 : 2
b. 2 : 3
c. 6 : 1
d. 1 : 6

_____38. A retailer buys a pack of sugar from Uniwide Sales for $459. He then marks up the price by 1/3 and sells it at a discount of 16 and 2/3 %. What was his profit in this item?
a. $ 153
b. $ 102
c. $ 26.50
d. $ 51.00

_____39. Forrest Gamp walks down the road for 30 minutes at a rate of 3 mph. He waits 10 minutes for a bus, which brings him back to his starting point at 4 : 25. If he began his walk at 3:35 the same afternoon, what was the average speed on the bus?

a. 3 mph
b. 4.5 mph
c. 7.5 mph
d. 9 mph

_____40. Miss Felisa Gascon had $ 2 million to invest. She invested part of it at 4% a year and the remainder at 5% per year. After one year she earned $ 95, 000 in interest. How much of the original investment was placed at 5% rate?

a. $ 900,000
b. $ 1,250,000
c. $ 1,500,000
d. $ 1,600,000

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Mathematics Test V - Page 57

_____41. Which of the following is NOT a possible remainder if a positive integer is divided 5

a. 0
b. 1
c. 3
d. 5

_____42. In a building plan, 1/4 cm represents 2 meters. If the main entrance is supposed to be 8 meters wide, how would its representation be on the plan?

a. 1 cm
b. 1/2
c. 2 cm
d. 1/16 cm

_____43. A real estate agent marks a certain property up 40% above the original cost. Then he gives a client a 15% discount. If the final selling price of the property was $8.619 M, what was the original cost of the property?

a. $ 6.63 M
b. $ 7.26 M
c. $ 7.8 M
d. $ 99.12 M

_____44. If 2/3 the perimeter of a square is 16, then what is the length of one of its sides?

a. 6
b. 8
c. 9
d. 12

_____45. What values of x can satisfy the equation (3x + 6) (2x - 8) = 0?

a. -4 and 2 only
b. 4 only
c. -2 only
d. -2 and 4 only

Civil Service Reviewer Post 57/159
Mathematics Test V - Page 58

_____46. If 8 men can plant 288 trees in one day, how many trees can 12 men plant in 5 days?

a. 432
b. 960
c. 1,800
d. 2,160

_____47. If the length of a rectangle is increased by 25% and its width is decreased by 20%, what happens to the area of the rectangle?

a. increase by 5%
b. decrease by 5%
c. increase by 45%
d. no change

_____48. The formula for the volume of a sphere is $V = 4/3\ \pi^3$. If the radius (r) is tripled, what will be the ratio of the new volume to the original volume?

a. 1 : 3
b. 3 : 1
c. 9 : 1
d. 27 : 1

_____49. The scale on a map is 1 : 8. If a surveyor reads a certain measurement on the map as 4.6 cm instead of 5.0 cm, what will be the resulting approximate percent error on the full size model?

a. 4%
b. 8%
c. 64%
d. 93%

_____50. In a certain recipe, 225 grams of beef are called for to make 6 servings. If Mrs. Alferez wants to use the recipe for 8 servings, how many grams of beef must she use?

a. 275 grams
b. 300 grams
c. 337.5 grams
d. 400 grams

Civil Service Reviewer Post 58/159
Mathematics Test I Solution - Page 59

Solutions

1. 16 + 4 x (7 + 8) - 3 = _____?

= 16 + 4 x (15) - 3

= 16 + 60 - 3

= 16 + 57

= 73 *Ans.

---

2. (18 + 17) (12 + 9) - (7 x 16) (4 + 2) = _____?

= (35) (21) - (112) (6)

= 735 - 672

= 63 *Ans.

---

3. The sum of 73, 2891, 406 and 98 is _____?

= 73 + 2891 + 406 + 98

= 3468 *Ans.

---

4. Which of the following numbers is divisible by 24 ?

192 + 24 = 8 *Ans.

286 + 24 = 11 remainder 4, 268 not divisible by 24 because it has a remainder when divided by 24.

---

5. Which of the following numbers is prime?

a. 57 = 3 x 19

b. 87 = 3 x 29

c. 89 = 89 x 1 *Ans.

d. 91 = 13 x 7

Civil Service Reviewer Post 59/159
Mathematics Test I Solution - Page 60

6. The product of 18 and 73 is _____?

18 x 73 = 1,314

1314 *Ans.

---

7. The difference of 476 and 182 is _____?

476 - 182 = 294

294 *Ans.

---

8. Evaluate $\frac{1}{100} + \frac{2}{1000} + \frac{3}{10}$ = _____?

1 / 100 = 0.01

2 / 1000 = 0.02

3 / 10 = 0.3

0.01 + 0.02 + 0.3 = 0.312 *Ans

---

9. Evaluate ½ + ¼ + ⅛ _____.

Find first the LCD which is 8.

½ = 4/8

¼ = 2/8

⅛ = 1/8

$= \frac{4}{8} + \frac{2}{8} + \frac{1}{8}$

= 7/8 *Ans.

10. Seventy-one and twenty-one ten thousandths is written in standard form as :

71.0021 *Ans.

Civil Service Reviewer Post 60/159
Mathematics Test I Solution - Page 61

11. One thousand forty two and seven thousandths written form is _____?

= 1, 042.007 *Ans.

12. $\frac{1}{3} + \frac{5}{6} + \frac{1}{2} =$ _____?

Find first the LCD which is = 6

1/3 is now 2/6
5/6 is still 5/6
1/2 is now 3/6

$= \frac{2 + 5 + 3}{6}$

= 10/6 or 5/3

1 ⅔ *Ans.

13. 3 ½ - 1 ⅔ = _____?

Change 3 ½ to improper fraction which is 7/2
Change 1 ⅔ to improper fraction which is 5/3

$= \frac{7}{2} - \frac{5}{3}$

$= \frac{3(7) - 2(5)}{2(3)}$

$= \frac{21 - 10}{6}$

= 11/6

$= 1\frac{5}{6}$ *Ans.

14. 900 x 0.09 = _____?

```
      900
x      .09
    81.00 *Ans.
```

Civil Service Reviewer Post 61/159
Mathematics Test I Solution - Page 62

15. $\frac{7}{8} + \frac{21}{4} =$ _____?

$= \frac{7}{8} \times \frac{4}{21}$

$= \frac{28}{168}$

$= \frac{28 + 28}{168 + 28}$

= 1/6 *Ans.

16. $\frac{3}{5} \times \frac{10}{3} =$ _____?

= 30 / 15

= 2 *Ans.

17. 3.156 x 0.12 = _____?

```
   3.156        ------> 3-decimal places
 x  .12         ------> 2-decimal places
    6312
   3156
 0.37872 *Ans.  ------> 5-decimal places
```

18. 5 ½ + 2 ⅓ = _____?

$= \frac{11}{2} + \frac{7}{3}$

$= \frac{11}{2} \times \frac{3}{7}$

$= \frac{33}{14}$

change 33/14 to improper fraction by dividing 33 by 14 which is :

$2\frac{5}{14}$ *Ans.

Civil Service Reviewer Post 62/159
Mathematics Test I Solution - Page 63

19. $\frac{2}{\frac{1}{2}} + \frac{4}{\frac{1}{3}} =$ _____.

$= \frac{\frac{6}{3}}{6} \quad \frac{\frac{2}{6}}{6}$

$= \frac{\frac{6}{5}}{6}$

$= 6 \times \frac{6}{5}$

= 36/5

= 7 ⅕ Ans.

20. 3% of 24 = _____?

= 0.03 x 24

= 0.72 *Ans.

21. 1402 + 142 + 14.2 + 1.42 = _____?

```
      1402.00
       142.00
+       14.20
         1.42
      1559.62 *Ans.
```

22. 2010 x 0.00001 = _____?

2010 x .00001 = 0.2010

=0.210 *Ans.

23. Find the average of 6.8, 3.5, 9.2, 7.45, and 6.05.

$= \frac{6.8 + 3.5 + 9.2 + 7.45 + 6.05}{5}$

= 33/5

= 6.6 *Ans.

Civil Service Reviewer Post 63/159
Mathematics Test I Solution - Page 64

24. 47 x 0.05 = _____?

= 47 x 0.05

= 2.35 *Ans.

25. 87 / 0.01 = _____?

move the decimal point 2 places to the right in both dividend & divisor because there are 2 decimal places in thedivisor.

0.01 is now 1 and 87 is now 8700

= 8700 / 1

= 8700 *Ans.

26. (0.5) (5) (0.5) = _____.

= (2.5) (0.5)

= 1.25 *Ans.

27. Dividing by 0.2 is the same as multiplying by _____?

= 1 ÷ 0.2

$= 1 \div \frac{2}{10}$

$= 1 \div \frac{1}{}$

5

= 1 x 5

= 5 *Ans.

28. 0.012 ÷ 3 = _____?

```
     .004
= 3 | .012
      0
      1
      0
     12
     12
      0
```

0.004 *Ans.

29. 2.944 ÷ 0.23 = _____?

move the decimal point 2 places to the right in both dividend & divisor because there are 2 decimal places in thedivisor.

0.23 is now 23 and 2.944 is now 294.4

= 294.4 / 23

= 12.8 *Ans.

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Mathematics Test I Solution - Page 65

30. $\frac{0.25 + 0.25 + 0.25 + 0.25}{0.25}$ = _____?

= $\frac{4\ (\cancel{0.25})}{\cancel{0.25}}$

= 4 *Ans.

31. 0.0088 ÷ 0.22 = _____?

To start dividing, you have to make the divisor 0.22 a whole number by moving the decimal point 2 places to the right. Doing this will also move two decimal point for the dividend 00.0088.

0.22 is now 22 and 0.0088 is now 0.88

```
     0.04
22 | 0.88
     0
     88
     88
      0
```

therefore, 0.04 *Ans.

32. (0.15 x 0.37) + (0.85 + 0.63) + (0.15 + 0.63) + (0.85 + 0.37) = _____?

= [(0.15 + 0.63) + (0.85 + 0.63)] + [(0.15 x 0.37) + (0.85 + 0.37)]

= [0.63 (0.15 + 0.85)] + [0.37(0.15 + 0.85)]

= [0.63 (1)] + [0.37(1)]

= 1 *Ans.

33. Which of the following best approximate 68 / 0.17 = ____?

To start dividing, you have to make the divisor 0.17 a whole number by moving the decimal point 2 places to the right. Doing this will also move two decimal point for the dividend 68.

0.17 is now 17 and 68 is now 6800

=6800 / 17

= 400 *Ans.

34. The decimal from of 11/6 is _____?

= $\frac{11}{6}$

= 1.83 *Ans.

35. 5/9 of what number is 435 ?

$\frac{5}{9}$ x N = 435

N = 435 ($\frac{9}{}$)

5

N = 783 *Ans.

Civil Service Reviewer Post 65/159
Mathematics Test I Solution - Page 66

36. Which of the following fractions is the greatest?

a. 1 / 10 = 1 / 10

b. $\frac{0.1}{0.10}$ = $\frac{1}{1.0}$ = 1

c. $\frac{1}{0.01}$ = $\frac{100}{1}$ ---> 100

d. $\frac{1}{0.001}$ = $\frac{1000}{1}$ -----> 1000 *Ans

37. 4.7 - 3.12 = _____?

4.70 - 3.12 = 1.58 *Ans.

38. 19.4 - 12.72 ÷ 5 _____?

19.4 ÷ 5 = 24.40 - 12.72 = 11.68 *Ans.

39. $\frac{27}{32}$ ÷ $\frac{-3}{8}$ = _____?

= $\frac{27}{32}$ x $\frac{(8)}{-3}$

= $\frac{216 \div 24}{-96 \div 24}$

= $\frac{9}{-4}$

= -2 ¼ *Ans.

40. 2 ¼ x 4 = _____?

= $\frac{11}{4}$ x 4

= 11 *Ans.

Civil Service Reviewer Post 66/159
Mathematics Test I Solution - Page 67

41. $\frac{-1}{4}$ + $\frac{5}{6}$ = _____.

= $\frac{-3}{12}$ + $\frac{10}{12}$

= 7/12 *Ans.

42. (-11.1) + (12.32) = _____.

```
  12.32
- 11.1
   1.22 *Ans.
```

43. What % of 50 is 15?

B = 50; P = 15

Rate = $\frac{P}{B}$ x 100%

= $\frac{15}{50}$ x 100%

= $\frac{3}{100}$ x 100%

= 30% *Ans.

44. What % of 12 is 6 ?

Rate = $\frac{P}{B}$ x 100%

= $\frac{6}{12}$ x 100%

= $\frac{1}{2}$ x 100%

= 50% *Ans.

45. 36 / 720 = _____?

```
      .05
720 | 36.00
      36.00
        0
```

therefore 0.05 *Ans.

Civil Service Reviewer Post 67/159
Mathematics Test I Solution - Page 68

46. What is 1/4 % of 880?

= 1/4 % x 880

= 1/400 x 880

= 880/400

= 2.2 *Ans.

47. What % of 2 and 1/2 is 1/2 ?

Rate = $\frac{1/2}{2\ ½}$ x 100%

= $\frac{½}{5/2}$ x 100%

= $\frac{1}{2} \times \frac{2}{5}$ x 100%

= $\frac{1}{5}$ x 100%

= 20% *Ans.

48. 180 is 66 ⅔ % of what number?

⅔ N = 180

N = 180 $(\frac{3}{2})$

N = 270 *Ans.

49. ⅓ of what number is 42 ?

⅓ x N = 42

N = 42 ÷ ⅓

N = 42 x 3

N = 126 *Ans.

50. 8 ⅓ - 2 $\frac{5}{8}$ = _____?

8 ⅓ = 25/3

2 $\frac{5}{8}$ = 21/8

= $\frac{25}{3} - \frac{21}{8}$

= $\frac{8(25) - 3(21)}{3(8)}$

= $\frac{200 - 63}{24}$

= $\frac{137}{24}$

= 5 $\frac{17}{24}$ *Ans.

Civil Service Reviewer Post 68/159
Mathematics Test II Solution - Page 69

Solutions

1. 27, 499 round to the nearest hundred is _____?

= 27, 499 ---> drop 99 and change it to 00 and add 1 to the next digit which is 4 since 99 is more than 50.

Therefore 27,500 is the answer. *Ans.

2. Twenty-four weeks is how many days?

= 24 ~~weeks~~ x $\frac{7 \text{ days}}{\text{weeks}}$

= 24 x 7 days

= 168 days *Ans.

3. Five hundred ninety-five days is how many weeks?

= 595 days x $\frac{1 \text{ week}}{7 \text{ days}}$

= $\frac{595}{7}$ week

= 85 weeks *Ans.

4. Eighteen bus loads of 56 students each went to join the Independence Day Celebration. One hundred seventy-four did not go. How many students are there in all?

Number of students :

N = (18 x 56) + 174

= 1008 (174)

= 1182 students *Ans.

5. Richard bowled 3 games and got scores of 139, 153, and 128. What was his average score for the three games?

Average = $\frac{139 + 153 + 128}{3}$

= $\frac{420}{3}$

= 140 *Ans.

Civil Service Reviewer Post 69/159
Mathematics Test II Solution - Page 70

6. What time will it be 3 and 1/2 hours after 7:15 PM?

= 7:15 + 3:30

= 10: 45 PM *Ans.

7. What time was it 3 and 1/2 hours before 7:15 AM?

7:15 - 3:30

Since :15 minutes (7:15) is less than :30 minutes (3:30) you need to borrow an hour to 7 and convert that to minutes. 1 hour = 60 minutes. Now :15 + :60 = 75 minutes.

7:15 is now 6:75

6:75 - 3:30 = 3:45 AM *Ans.

8. The fraction 52 / 91 expressed in lowest term is _____?

$\frac{52}{91} = \frac{52\ /\ 13}{91\ /\ 13}$

= $\frac{4}{7}$ *Ans.

9. Car A averages 8 km per liter of fuel. Car B averages 12 km per liter of fuel. If the price of fuel is $10 per liter. How much less would a 600 - km. trip cost for Car A than for Car B?

CAR A :

$\frac{600 \text{ km}}{8 \text{ km}}$ x $10 = $750

CAR B :

$\frac{600 \text{ km}}{12 \text{ km}}$ x $10 = $500

$750 - $500 = $250 *Ans.

Civil Service Reviewer Post 70/159
Mathematics Test II Solution - Page 71

10. Change 31/17 to a mixed number.

$$17 \overline{)31} = 1$$
$$\underline{17}$$
$$14$$

therefore, the mixed number is $1\frac{14}{17}$ *Ans.

11. 40 is what part of 64?

Part = $\frac{40}{64}$

= $\frac{40 / 8}{64 / 8}$

= $\frac{5}{8}$ *Ans.

12. Change $13\frac{3}{7}$ to an improper fraction.

Just multiply 7 to 13 then add 3 and over it by 7.

7 x 13 = 91 + 3 = 94 / 7 *Ans.

13. What is the average speed in kph of a car travelling 160 kilometers in 5 hours?

Ave. Speed = $\frac{\text{distance}}{\text{time}}$

= $\frac{160 \text{ km}}{5 \text{ hrs.}}$

= 32 kph *Ans.

Civil Service Reviewer Post 71/159
Mathematics Test II Solution - Page 72

14. $\frac{3}{4} + \frac{1}{6} + \frac{1}{8}$ = _____?

= $\frac{18}{24} + \frac{4}{24} + \frac{3}{24}$

= $\frac{25}{24}$

= $1\frac{1}{24}$ *Ans.

15. $15\frac{1}{3} - 8\frac{3}{4}$ = _____?

15 and 1/3 is also = 46/3
8 and 3/4 is also = 35/4

= $\frac{46}{3} - \frac{35}{4}$

= $\frac{4(46) - 3(35)}{3(4)}$

= $\frac{184 - 105}{12}$

= $\frac{79}{12}$

= $6\frac{7}{12}$ *Ans.

16. 8 inches is what part of a foot?

1 FOOT = 12 INCHES

8 inches = 8 ~~inches~~ x $\frac{1 \text{ foot}}{12 \text{ ~~inches~~}}$

= $\frac{8}{12}$ ft.

= 2/3 ft. *Ans.

17. If 4 workers can complete 8 identical jobs in 4 days, how long will it take 6 workers to complete 12 such jobs?

k = $\frac{(4 \text{ workers}) \text{ 4 days}}{8 \text{ jobs}}$

k = $\frac{\text{2 workers days}}{\text{job}}$

No. of days for 12 jobs for 6 workers

N = $\frac{\text{2 ~~worker~~ days}}{\text{~~job~~}}$ x $\frac{\text{12 ~~jobs~~}}{\text{6 ~~workers~~}}$

N = 4 days *Ans.

Civil Service Reviewer Post 72/159
Mathematics Test II Solution - Page 73

18. A bookstore sells two kind of MSA Reviewer Books. "College Admission Test Reviewer (CATR)" and High SchoolEntrance Test Reviewer (HSETR)". If it sells the CATR which yield a profit of $62.00 per book, and it can sell 300 books in a month. It sells the HSETR at a profit of $50.50 per book and it can sell 350 books in one month. Which type of book will yield more profit per month, and by how much?

CATR

Profit = $\frac{\$62}{\text{book}}$ x 300 books

= $18,600

HSETR

Profit = $\frac{\$50.50}{\text{book}}$ x 300 books

= $17,675

Difference in Profit = $18,600 - $17,675
= **$925 *Ans.**

therefore the CATR yield $925 more profit than the HSETR

19. Mr. Jose Suobiron inherited 5/8 of his father's estate. He sold 2/5 of his share. What part of the entire estate did he sell?

Let x - represents the whole state.

$\frac{5}{8}$x - is the share of Mr. Suobiron

N = part of the estate that he sold

N = $\frac{5}{8}$ x $\frac{2}{5}$

= 10 / 40

= 1/4 of the estate was sold by Mr. Suobiron *Ans.

20. 13 and 1/3 ounces is what part of a pound?

16 OUNCES = 1 POUND

= $13\frac{1}{3}$ ounces x $\frac{\text{1 pound}}{\text{ounces}}$

= $\frac{40}{3}$ x $\frac{1}{16}$ pounds

= 5 / 6 pounds *Ans.

Civil Service Reviewer Post 73/159
Mathematics Test II Solution - Page 74

21. 126 is 3/7 of what number?

$\frac{3}{7}$N = 126

N = 126 $\left(\frac{7}{3}\right)$

N = 882 / 3

N = 294 *Ans.

22. A roll of ribbon 51 yards long is to be divided into 408 equal parts. How many inches is the length of each part?

1 YARD = 36 INCHES

N = 51 ~~yards~~ x $\frac{\text{36 inches}}{\text{~~yards~~}}$ ÷ 408 parts

= 51 x 36 x $\frac{1}{408}$ inches/part

= 4.5 inches / part *Ans.

23. A water tank is 7/8 full. When 21 liters of water is drawn out, the tank is 5/8 full. What is the total capacity of the tank in liters?

Let x - be the total capacity of the tank.

$\frac{7}{8}x - 21 = \frac{5}{8}x$

$\frac{7}{8}x - \frac{5}{8}x = 21$

$\frac{2}{8}x = 21$

$\frac{1}{4}x = 21$

$x = 21\left(\frac{4}{1}\right)$

$x = 21(4)$

x = 84 *Ans.

24. A painter completes 2/9 of a job in 3 days. At this rate, how many more days will it take him to finish the job?

Let x - be the remaining of days to finish the job.

$\frac{2}{9} : 3 = \frac{7}{9} : x$ $\frac{7}{9}$ is part of the job that is unfinished. $1 - \frac{2}{9} = \frac{7}{9}$

$\frac{2}{9}x = 3\left(\frac{7}{9}\right)$

$\frac{2}{9}x = \frac{21}{9}$

$x = \frac{21}{\cancel{9}}\left(\frac{\cancel{9}}{2}\right)$

$x = \frac{21}{2}$

x = 10.5 days *Ans.

Civil Service Reviewer Post 74/159
Mathematics Test II Solution - Page 75

25. A boy spent $320, which was 5/7 of what he had originally. How much did he have originally?

Let x - be the original amount of money that the boy had first.

$\frac{5}{7}x = \$320$

$x = 320\left(\frac{7}{5}\right)$

x = $448 *Ans.

26. 0.0075 x 1000 = _____?

To multiply numbers by 10^n, move the decimal point of the number to n places to the right.

$0.0075 \times 1000 = 0.0075 \times 10^3$ n = 3 this represents the no. of zero decimals : move the

= 7.5 *Ans decimal point 3 places to the right.

27. Express 0.572 as a common fraction in lowest term?

$0.572 = \frac{527}{1000}$ 0.572 - this has 3 decimal places remove the decimal point and replace it by the denominator of $10^3 = 1000$.

$= \frac{572 / 4}{1000 / 4}$

$= \frac{143}{250}$ *Ans.

28. Of the following which is the closest approximation to the product 0.33 x 0.41 x 0.625 x 0.83 = _____?

0.33 = 1/3
0.41 = 2/5
0.625 = 5/8
0.83 = 5/6

$= \frac{1 \times 2 \times 5 \times 5}{3 \times 5 \times 8 \times 6}$

$= \frac{50}{720}$

= 5 / 72 *Ans.

Civil Service Reviewer Post 75/159
Mathematics Test II Solution - Page 76

29. Dividing by 0.125 is the same as multiplying by _____?

$= \frac{1}{0.125}$

$= \frac{1}{\frac{1}{8}}$

$= 1 \times \frac{8}{1}$

= 8 *Ans.

30. If a copper wire is 3.7 feet long, its length in inches is _____?

3.7 feet = 3.7 feet x $\frac{12 \text{ inches}}{\text{foot}}$

44.4 inches *Ans.

44.4 inches is between 44 and 45

31. $\frac{9}{0.09 \times 0.9}$ = _____?

$= \frac{9}{\frac{9}{100} \times \frac{9}{10}}$

$= \frac{9}{\frac{81}{1000}}$

$= 9 \times \frac{1000}{81}$

$= \frac{1000}{9}$ *Ans.

32. How much money can be saved by buying 72 pens at $90 per dozen than buying them for $7.75 each?

Cost in buying by dozen :

$= 72 \text{ pens} \times \frac{1 \text{ dozen}}{12 \text{ pens}} \times \frac{\$90}{\text{doz.}}$

= 6 x $90

= $540

Cost in buying per piece :

= 72 x $7.75

= 558

Amount Saved = $558 - $540
= $18 *Ans.

Civil Service Reviewer Post 76/159
Mathematics Test II Solution - Page 77

33. Two countries produce 1/8 and 3/10 respectively of the world production of aluminum. What fraction of the world production do the two nations produce together?

$N = \frac{1}{8} + \frac{3}{10}$

$= \frac{5}{40} + \frac{12}{40}$

$= \frac{17}{40}$ *Ans

34. Of 20 is 25 % of x + 7, then x = _____?

25 % (x + 7) = 20

1/4 (x + 7) = 20

$x + 7 = 20 \times 4$

$x + 7 = 80$

$x = 80 - 7$

$x = 73$ *Ans.

35. If 5 x 5 x Z = 15 x 15 x 15, then Z = _____?

$5 \times 5 \times Z = 15 \times 15 \times 15$

$Z = \frac{15 \times 15 \times 15}{5 \times 5}$

$Z = 3 \times 3 \times 15$

$Z = 135$ *Ans.

36. The morning class in school begin at 8:05 AM and end at 12:00 noon. There are five class periods of 45 minutes each with equal intervals between classes. How many minutes are there in each interval?

Let x - be the length of time of each interval

8: 05 AM + : 45 min-class + x + :45 min-class + x + :45 min-class + x
+ :45 min-class + x + :45 min-class = 12:00

8:05 + 5(45 minutes) + 4x = 12:00

8:05 + 225 minutes + 4x = 12:00

8:05 + 3 hrs & 45 min + 4x = 12:00

11:50 + 4x = 12:00

4x = 10 minutes

x = 10 / 4

x = 2.5 minutes *Ans.

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37. Every seat in a bus was taken and 7 people were standing. At the next stop 15 people got off and 3 got on. How many seats were empty after this stop if everyone was seated?

Let x - be the number of seats

No. of people = x + 7 -15 + 3
No. of people = x - 5

No. of empty seats = x - (x - 5)
No. of empty seats = x - x + 5
No. of seats = 5 *Ans.

38. A boy scored 134, 145, and 150 in his first 3 games. What score must he make on his next game so that his average for the four games will be 149?

x - must be score in the fourth game

$\frac{x + 134 + 150 + 145}{4} = 149$

$x + 429 = 4(149)$

$x + 429 = 596$

$x = 596 - 429$

$x = 167$ *Ans.

39. Angelo can type 9 pages in 12 minutes. How many pages can he type in 8 hours at the same rate?

P - no. of pages :

$\frac{P}{8 \text{ hrs}} \times \frac{1 \text{ hr}}{60 \text{ mins}} = \frac{9 \text{ pages}}{12 \text{ mins}}$

$\frac{P}{480} = \frac{9}{12}$

$P = \frac{9}{12}(480)$

$= 9(40)$

360 *Ans.

40. Girlie starts cleaning the yard at 10 AM and by 11:20, she has finished 4/5 of it. If she continues working at the same rate, at what time will she finish cleaning the yard?

Time elapse from 10 AM to 11:20 AM is 1 hour and 20 minutes which is = 80 minutes.

$\frac{4}{5}$: 80 minutes = $\frac{1}{5}$: x

$\frac{4}{5}x = 80\left(\frac{1}{5}\right)$

$x = 80\left(\frac{1}{5}\right)\frac{5}{4}$

= 20 minutes

therefore, 20 minutes after 11:20 AM is 11:40 AM *Ans.

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41. If 3/8 of a certain number is 2/5, what is 3/4 of that same number?

$\frac{3}{8}x = \frac{2}{5}$

$x = \frac{2}{5}\left(\frac{8}{3}\right)$

$x = \frac{16}{15}$

$\frac{3}{4}x = \frac{3}{4}\left(\frac{16}{15}\right)$

$\frac{3}{4}x = \frac{4}{5}$ *Ans.

42. A bus travels 240 kilometers at 60 kph and then returns at 40 kph. What is the average speed in kilometers per hour for the round trip?

t1 = distance / rate
= 240 km / 60 kph
= 4 hrs.

t2 = distance / rate
= 240 km / 40 kph
= 6 hrs.

rate = $\frac{\text{total distance}}{\text{total time}}$

$= \frac{240 + 240}{4 + 6}$

$= \frac{480}{10}$

= 48 km/hr *Ans.

43. Mr. Albelda drives his car at the rate of 60 miles per hour. What is his rate in feet per second?

5280 ft. = 1 mile

rate = $60 \frac{\text{mi}}{\text{hr}} \times \frac{1 \text{ hr}}{3600 \text{ sec}} \times \frac{5280 \text{ ft}}{1 \text{ mile}}$

$= \frac{60(5280)}{3600} \frac{\text{ft}}{\text{sec}}$

$= 88 \frac{\text{ft}}{\text{sec}}$ *Ans.

44. What is 0.05 percent of 6.5 ?

= 0.05% x 6.5

= 0.0005 x 6.5

= 0.00325 * Ans.

45. At Rosa Alvero Street, in Loyola Heights there are 8 towns houses and 52 private individual homes. What is the ratio of town houses to private individual homes?

$\frac{8}{52} = \frac{8 / 4}{52 / 4}$

= 2 / 13 or 2 : 13 * Ans.

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46. If it takes 16 pipes 10 hours to fill 8 tanks, how long will it take 12 pipes to fill 9

tanks?

Let H be the number of hours

$H = \frac{(16)(10)}{8} \frac{\text{pipe} \cdot \text{hours}}{\text{tanks}} \times \frac{9 \text{ tanks}}{12 \text{ pipes}}$

$= \frac{16 \times 10 \times 9}{8 \times 12}$

$= \frac{1440}{96}$

= 15 hours *Ans.

47. Mr. Cruz borrows $360,000. If he pays back $378,000 after one year, what is his interest rate?

I = F - P

I = $378,000 - $360,000 = 18,000

rate = $\frac{I}{Pt} \times 100\%$

$= \frac{\$18,000}{\$360,000} \times 100\%$

= 5% *Ans.

48. If 6 men need $3,600 worth of food for a three-day camping trip, how much will 2 men need for a 15-day trip?

Let x - be the worth if food needed by 2 men for a 15-day trip

$x = \frac{\$3,600}{6 \times 3} \times (2 \times 15 \text{ man-days})$

$= \frac{\$3,600 \times 30}{18}$

= 200 x 30

= $6,000 *Ans.

49. What is 6% of 2.5 ?

6% of 2.5

$= \frac{6}{100} \times \frac{25}{10}$

$= \frac{150}{1000}$

= 3 / 20 * Ans.

50. What is the value of 60 x 31 x 36 x 7 ?

In this kind of problem we don't need to multiply in order to get the answer. Notice in the choices that the first fivedigits are all the same so we just have to check what the last digit be This can be done by multiplying the last digit :

0 x 1 x 6 x 7 = 0

Therefore, the answer is : 468, 720 *Ans.

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Mathematics Test III Solution - Page 81

Solutions

1. If 9x - 7 = 18y then $\frac{9x - 7}{6}$ = _____?

9x - 7 = 18y

$\frac{9x - 7}{6} = \frac{18y}{6}$

= 3y *Ans.

2. A student buys an MSA Reviewer Book for $175 after receiving a discount of 12.5%. What was the marked price?

1 MP - 0.125 MP = $175

0.875 MP = $175

7/8 MP = $175 (note : 7/8 is the fraction form of 0.875)

MP = $175 x (8/7)

MP = $200 *Ans.

3. A town house unit was sold fir $2.50 M, yielding a 25% profit. For how much would it be sold to yield only a 10% profit on the cost?

Let C be the original cost of the house
Let 0.25C be the profit

C + 0.25C = $2.5 M

1.25C = $2.5M

$\frac{1.25C}{1.25} = \frac{\$2.5M}{1.25}$

C = $2M

The new selling price that would yield at 10% profit on the cost would be :

= $2M + 0.10 ($2M)
= $2M + 0.20M
= $2.2M *Ans.

4. What single discount is equivalent to successive discounts if 5% and 10%?

The formula for a single rate of discount equivalent to the series of discounts is :

$R = 1 - [(1 - r_1)(1 - r_2)...(1 - r_n)]$

for r_1 = 5% and r_2 = 10%

R = 1 - [(1 - 0.05) (1 - 0.10)]
= 1 - [(0.95) (0.90)]
= 1 - 0.855
= 0.145 or 14.5% *Ans.

5. How many miles are there in 40 kilometers?

1 mile = 1.6 kilometers

40 kilometers = 40 km x $\frac{1 \text{ mile}}{1.6 \text{ km}}$

= 25 miles *Ans.

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6. If water tank can be filled 1 and 3/4 hours. What part of the tank can be filled in exactly 1 hour?

The part of the tank that can be filled in 1 hour is 1 + 1 and 3/4

$= 1 + \frac{7}{4}$

$= 1 \times \frac{4}{7}$

$= \frac{4}{7}$ *Ans.

7. If 5 items cost d dollars how much would x items cost at the same rate?

The cost of x items = $\frac{d\,x}{5}$

$= \frac{dx}{5}$ *Ans.

8. In a group of 8, 000 applicants for a civil service examination, 1600 failed to take the first part of the test. What percent of the total applicants took the first part of the test?

Rate = $\frac{8000 - 1600}{8000} \times 100\%$

$= \frac{6400}{8000} \times 100\%$

= 0.8 x 100%

= 80% *Ans.

9. If the ratio a : b is 11 : 9, then a + b is _____?

The sum of a and b can't be determined from the given information because there are infinite possibilities for this like;

a + b = 11 + 9
= 22 + 18
= 33 + 27 and so on...

d. can't be determined from the given information. *Ans.

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10. If 4 men can paint a fence in 2 days, what part of the job can be completed by one man in 8 days?

$\frac{1 \text{ whole job}}{4 \text{ men} \times 2 \text{ days}} \times 1 \text{ man} \times 8 \text{ days}$

$\frac{8 \text{ whole jobs}}{8}$

1 whole job *Ans.

11. Of John's salary, 1/10 is spent for clothing, and 1/4 for board and lodging. What part of the salary is left for other expenditures and savings?

Let x - be the part left.

$x = 1 - (\frac{1}{10} + \frac{1}{4})$

$= 1 - (\frac{2 + 5}{20})$

$= \frac{20}{20} - \frac{7}{20}$

= 13 / 20 *Ans.

12. Which of the following fractions is closest to 1/3 ?

We can solve the problem by getting the LCM of the given fraction and all the chioces.

The LCM = 15 then compare the differences of each choice to 1/3.

1/3 - 1/5 = 5/15 - 3/15 = 2/15

2/5 - 1/3 = 6/15 - 5/15 = 1/5 *Ans.

2/3 - 1/3 = 10/15 - 5/15 = 10/15

3/5 - 1/3 = 9/15 - 5/15 = 4/15

13. Write 0.5 % as decimal.

To change % to decimal, we drop the % sign and move the decimal point two places to the left.

0.05 % = 0.005 *Ans.

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14. If 10 parts of alcohol is mixed with 15 parts of water, what part of the mixture is alcohol ?

The part of the mixture is alcohol $= \frac{10}{10 + 15}$

$= \frac{10}{25}$

= 2/5 *Ans.

15. If 2/5 of the workers in a factory go on vacation is September and 1/3 of the remainder take their vacation in October, what fraction of the workers take their vacation in some other time?

The fraction of the workers that take their vacation in some other time

$= 1 - [\frac{2}{5} + \frac{1}{3}(1 - \frac{2}{5})]$

$= 1 - [\frac{2}{5} + \frac{1}{3}(\frac{3}{5})]$

$= 1 - [\frac{2}{5} + \frac{1}{5}]$

$= 1 - \frac{3}{5}$

$= \frac{2}{5}$ *Ans.

16. A bill was passed by a vote of 7 : 5 . What part of the vote counts were in favor of the bill?

The part of the vote in favor of the bill : $\frac{7}{7 + 5}$

= 7 / 12 *Ans.

17. If a man travels for half of an hour at 60 km/hr, and for quarter of an hour for 120 km/hr, what is his average speed?

$d_{1/2} = \frac{1}{2} \text{ hr.} \times \frac{60 \text{ km}}{\text{hr}} = 30 \text{ km}$

$d_{1/4} = \frac{1}{4} \text{ hr.} \times \frac{120 \text{ km}}{\text{hr}} = 30 \text{ km}$

Average speed $= \frac{\text{total distance}}{\text{total time}}$

$\frac{(30 + 30)}{(\frac{1}{2} + \frac{1}{4})}$

$\frac{(30 + 30) \text{ km.}}{\frac{3}{4} \text{ hr.}}$

$60 (\frac{4}{3})$ kph

Ave. Speed = 80 kph. *Ans.

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18. What part of an hour elapses between 9:52 AM and 10:16 AM ?

= 10:16 - 9:52

10:16 is also equal to 9:76 since 76 is equal to 1 hour and 16 minutes. 9 hours + 1 hour and 16 minutes = 10:16.

= 9:76 - 9:52 = 24 minutes

$= 24 \text{ minutes} \times \frac{1 \text{ hr}}{60 \text{ min}}$

= 24 / 60 hrs.

= 2 / 5 hours *Ans.

19. If the ratio of boys to girls is 3 : 7 . If the class has 40 students, how many additional boys are needed to enroll to make the ratio 2 : 1 ?

3x + 7x = 40 The number of boys : 3x = 3(4) = 12

10x = 40 The number of girls : 7x = 7(4) = 28

$x = \frac{40}{10}$ since the desired ratio of boys to girls is 2 : 1 .

x = 4 the required number of boys is 2 x 28 = 56 so 56 - 12 = 44 more boys are needed. *Ans.

20. If 45 feet of uniform wire weigh 5 kilograms, what is the weight of 30 yards o the same wire ?

Let x - be the length of 30 yards of the same wire.

$30 \text{ yards} \times \frac{3 \text{ feet}}{\text{yard}} = 90 \text{ feet}$

$\frac{x}{90} = \frac{5}{45}$

$\frac{x}{90} = \frac{1}{9}$

x = 10 kgs. *Ans.

21. A school has enough oatmeal to feed 15 children in 4 days. If 5 more children are added, how many days will the oatmeal last ?

This problem is an example of an inverse proportion.

4 : 1/5 = x : 1 / (15 + 5)

4 : 1/15 = x : 1/20

$\frac{1}{15}x = 4 (\frac{1}{20})$

$\frac{x}{15} = \frac{1}{5}$

$x = \frac{1}{5} (15)$

5

x = 3 days *Ans.

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22. If a car can travel 60 km on 12 liters of gasoline, how many liters will be needed in a 210 km trip ?

This is a direct proportion problem, Let x - be the number of liters needed.

x : 210 = 12 : 60

60x = 210 (12)

60x = 2520

x = 2520 / 60

x = 42 liters *Ans.

23. Write 7.5% as a fraction.

$7.5\% = \frac{7.5}{100}$

$= \frac{75}{100}$

$= \frac{3}{40}$ *Ans.

24. Write 3/8 % as decimal.

3/8 % = 0.375 %

= 0.00375 *Ans.

25. Find 40% of 60.

= 0.40 x 60

= 24 *Ans.

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Mathematics Test III Solution - Page 87

26. Find 70% of 60.

= 0.70 x 60

= 42 *Ans.

27. What is 175% of 24 ?

P = Rate x Base
= 1.75 x 24
= 42 *Ans.

28. What percent of 60 is 42 ?

$R = \frac{P}{B} \times 100\%$

R = 70% *Ans.

29. 54 is 20% of what number ?

N = 54 ÷ 0.20

= 540 / 2

= 270 *Ans.

30. 24 is 150% of what number ?

24 = 1.5 x N

N = 24 / 1.5

N = 240 / 15

N = 16 *Ans.

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Mathematics Test III Solution - Page 88

31. How many thirty- seconds are there in 62 ½ % ?

$\frac{N}{32} = 62\frac{1}{2}\%$

$\frac{N}{32} = \frac{5}{8}$

$N = \frac{5}{8}(32)$

N = 20 *Ans.

32. A shirt marked $560 is sold for $392. What was the rate of discount ?

$\text{Rate} = \frac{\text{discount}}{\text{original price}} \times 100\%$

$= \frac{\$560 - \$392}{\$560} \times 100\%$

$= \frac{\$168}{\$560} \times 100\%$

= 30% *Ans.

33. A kinder class has g number of girls and b number of boys. The ratio of boys to girls is _____ ?

The ratio of boys to girls is b / g *Ans.

34. $\sqrt{\frac{1}{25} + \frac{1}{144}}$ = _____ ?

$= \sqrt{\frac{144}{25} + \frac{25}{144}}$

$= \sqrt{\frac{169}{(25)(144)}}$

$= \frac{13}{(5)(12)}$

= 13 / 60 *Ans.

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Mathematics Test III Solution - Page 89

35. A basketball team has won 24 games out of 36 games played. It has 24 more games to play. How many ofthese must the team win to make its record 80% for the season ?

The total number of wins = 80% x (total no. of games played)
= 0.80 x (36 + 24)
= 0.80 (60)
= 48

Since they already won 24 games, they need to win 24 more games. * Ans.

36. If prices are reduced by 25% sales increased by 33 ⅓ % what is the net effect on gross revenue ?

Revenue = price x no. items sold
R = P x N

$R_{orig} = PN$

If prices are reduced by 25%

$R_{new} = (P - 25\% P)(N + 33\frac{1}{3} N)$

$= (P - \frac{1}{4} P)(N + \frac{1}{3} N)$

$= (\frac{3}{4} P)(4/3 N)$

$R_{new} = PN$
$R_{new} = R_{orig}$

The revenues remain the same * Ans.

37. An 8-meter rope is cut so that one part is 3/5 of the other. How long in meters, is the shorter segment ?

Let x - be the length of the shorter rope.
Let 8 - x be the length of the larger rope

$x = \frac{3}{5}(8 - x)$

5x = 3 (8 - x)
5x = 24 - 3x
5x + 3x = 24
8x = 24
x = 3 meters * Ans.

38. When the gasoline guage of an automobile shows 1/8 full, 52.5 liters is needed to completely fill the gasoline tank. What is the capacity, in liters of the gasoline tank?

Let x - be the capacity in liters

$x - \frac{1}{2}x = 52.5$

$\frac{7}{8}x = 52.5$

$x = 52.5\left(\frac{8}{7}\right)$

x = 60 * Ans.

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Mathematics Test III Solution - Page 90

39. What part of gallon is 7 pints, given that 1 quart = 2 pints, 4 quarts = 1 gal. ?

therefore, 8 pints = 1 gal.

$7 \text{ pints} = 7 \text{ pints} \times \frac{1 \text{ gal}}{8 \text{ pints}}$

= 7 / 8 gallon * Ans.

---

40. If 7 is added to four times a number, the result is 91. What is the number ?

Let x - be the number.

$4x + 7 = 91$
$4x = 91 - 7$
$4x = 84$
$x = 84 / 4$
$x = 21$ * Ans.

---

41. The area of a square is 36 sq. cm. What is the perimeter of the square ?

$A = s^2$
$36 = s^2$

$s = \sqrt{36}$

s = 6 cm.

$P = 4s$
$= 4\ (6 \text{ cm.})$
= 24 cm. * Ans.

---

42. A truck can carry a load of 8 / 9 tons. How many trips must the truck make to deliver 10 and 2 / 3 tons of sand?

Let N - be the number of trips.

$N = 10\ ⅔ \div 8/9$

$= \frac{32}{3} \div \frac{8}{9}$

$= \frac{32}{3} \times \frac{9}{8}$

= 12 trips * Ans.

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Mathematics Test III Solution - Page 91

43. What is the value of

$\frac{6a^2b^3}{9}$ if a = 2 and b = 3 ?

$\cdot \frac{6a^2b^3}{9}$

$\cdot \frac{6(2)^2(3)^3}{9}$

$\cdot \frac{6(4)(27)}{9}$

= 72 * Ans.

---

44. $Z + \frac{4}{Z} = 4$

This problem can be solved the easiest way by substituting each choice to Z.

$Z = 1$
$1 + \frac{4}{1} = 4$

$1 + 4 = 4$

$5 \neq 4$

$Z = 2$

$2 + \frac{4}{2} = 4$

$2 + 2 = 4$

4 = 4 * Ans.

---

45. $\frac{1}{x} + \frac{1}{\frac{1}{x}} =$ _____ ?

$= \frac{1}{x} \cdot \frac{x}{1}$

= 1 * Ans.

---

46. $x\sqrt{0.0004} = 4 : x =$ _____ ?

$x\ (0.02) = 4$
$x = \frac{4}{0.02}$
$x = \frac{400}{2}$
x = 200 * Ans.

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Mathematics Test III Solution - Page 92

47. A piece of wire is cut into three, so that the first is three times as long as the second and the second is three times as long as the third. What part of the entire piece is the shortest?

First part = 9x
Second part = 3x
Third part = x

$9x + 3x + x = 13x$

$\text{part} = \frac{\text{length of the shortest part}}{\text{length of entire wire}}$

$= \frac{x}{13x}$

= 1 / 13 * Ans.

---

48. What is the average of the first 20 positive integers ?

$\text{Average} = \frac{\text{sum of the numbers}}{\text{numbers of items added}}$

$= \frac{1 + 2 + + 3 + 4 + 5 + 6 + 7 \ldots + 20}{20}$

= 10.5 * Ans.

---

49. A sales representative earns 5% commission on all sales between $ 20, 000 and $ 60, 000, and 8% on all sales over $ 60,000. What is the commission in a week in which her total sales was $ 80, 000 ?

Commission = 5% (6000) + 8% (80,000 - 60,000)

= 0.05 (60,000) + 0.08 (20,000)

= 3,000 + 1,600

= $ 4, 600 * Ans.

---

50. $\sqrt{\frac{12}{27} + \frac{12}{9}}$

$\sqrt{\frac{4}{9} + \frac{4}{3}}$

$\sqrt{\frac{4 + 12}{9}}$

$\sqrt{\frac{16}{9}}$

= 4 / 3 * Ans.

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Mathematics Test IV Solution - Page 93

Solutions

1. A car that cost $ 1.2 M can be sold for $ 600, 000 after 5 years of use. What will be the yearly depreciation cost ?

Yearly depreciation cost = $\frac{\text{depreciation}}{\text{no. of years}}$

= $\frac{\$\ 1{,}200{,}000 - \$\ 600{,}000}{5}$

= $\frac{\$\ 600{,}000}{5}$

= $ 120, 000 per year * Ans.

2. How many times does the digit 7 appear in the numbers from 1 to 100 ?

7, 17, 27, 37, 47, 57, 67, 77, 87, 97,

71, 72, 73, 74, 75, 76, 77, 78, 79

19 times * Ans.

3. At the rate of $ 44 per hundred sheets of colored bond paper, how much is the cost of 500 sheets ?

Cost of the 550 sheets = $\frac{\$\ 44}{100 \text{ sheets}}$ x 550 sheets

= $ 44 x 5.5

= $ 242 * Ans.

4. At $ 25 per board foot of wood, what is the cost of 15 pieces of 2" x 2" x 12' ?

(1 board foot = 1 ft. x 1 ft. x 1 inch)

Cost = $\frac{\$\ 25}{\text{bd. ft.}}$ x $\frac{2" \times 2" \times 12" \text{ bd. ft.}}{12"}$

= $ 1, 500 * Ans.

5. The decimal form of 0.56 % is _____ ?

Move 2 decimal places to the left (100%).

0.56 % = 0.0056 * Ans.

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Mathematics Test IV Solution - Page 94

6. If 3 feet = 1 yard, how many yards are there in 27 feet ?

3 feet : 1 yard = 27 feet : x yard

3 : 1 = 27 : x
3x = 1(27)
3x = 27
x = 27 / 3
x = 9 yards * Ans.

7. How many feet are there in 9 and 1/3 yards ?

Given that 1 yard = 3 feet :

1 yard : 3 feet = 9 ⅓ yards : x feet

1 : 3 = 9 ⅓ : x
1(x) = 3(9 ⅓)
x = 3 (28/3)
x = 28 feet * Ans.

8. A hand-carved wooden dining set is priced at $69, 950. If 20% discount is given to the customer, how much would he have to pay for the set ?

Net Price = $ 69, 950 - 20 ($69,950)
= $ 69, 950 - $13,390
= $ 55, 960 * Ans.

9. If an article priced at $99.80 is subjected to a 10% VAT, what would be the total amount to be paid for the article ?

Total Amount to be paid = $ 99.80 + 0.10 ($99.80)
= $ 99.80 + $ 9.98
= $ 109.78 * Ans.

10. Find the cost of 6 and 1/2 dozen eggs at $ 30.00 per dozen.

1 dozen : $ 30.00 = 6 and 1/2 dozens : x dollars

1 : 30 = 6.5 : x

1(x) = 30 (6.5)

x = $ 195.00 * Ans.

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Mathematics Test IV Solution - Page 95

11. A lady employee purchased an umbrella for $ 180 less 20%. How much should she pay if its is subject to a 5 % sales tax ?

Total Amount to be paid = ($180 - 0.20 x $ 180) x (1.05)
= ($180 - 36) (1.05)

= $144 x 1.05

= $ 151.20 * Ans

12. Mr. Mansueto Velasco Jr. is buying a piece of lot at Filinvest Homes East. The dimension of the rectangular lot is 14 meters by 30 meters at $ 3, 500 per square meters, what would be the total cost of the lot ?

Total Cost of the lot = area x price per unit area
= (14 x 30) sq. meters x $\frac{\$\ 3{,}500}{\text{sq. meters}}$

= 14 x 30 x $3,500

= $ 1, 470, 000 * Ans.

13. How much must a salesman sell in a month to yield him a commission of $ 12, 000, if his rate of commission is 5% on goods sold ?

Sales = Commission / Rate

= $ 12, 000 / 0.05

= $ 240, 000 * Ans.

14. How much would Charlie receive from his monthly salary of $ 8,000 after deducting 2 and 1/2 % for SSScontribution and 5% withholding tax ?

Total Rate of deductions = 2 ½ % + 5 % = 7 ½ %

Net Pay = Regular pay (1 - rate of deductions)
= $ 8, 000 (1 - 0.075)
= $ 8, 000 (0.925)
= $ 7, 400 * Ans.

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Mathematics Test IV Solution - Page 96

15. A student had $ 1, 050 in his wallet. He spent $ 640 for books and school supplies. What part of his money did he spend?

Part of the money spent = $\frac{\$\ 630 / \$\ 210}{\$\ 1050 / \$\ 210}$

= 3 / 5 * Ans.

16. MS. Cecille Garcia saves 18% of her monthly salary of $ 16, 500. How much does she saved in a year?

Amount of money saved = 0.18 x $\frac{\$\ 16{,}500}{\cancel{\text{month}}}$ x 12 $\frac{\cancel{\text{month}}}{\text{year}}$

= 0.18 x $ 16, 500 x 12

= $ 35, 640 * Ans.

17. Mrs. Leny Ngo wishes to buy a second hand car, the cash price of which is $ 150, 000. Not having ready cash she agrees to pay 1/3 down and the balance in 10 monthly installments of 11, 000 each. What is the total price of the car ?

Total price of the car = ⅓ x $ 150, 000 + 10 x $ 11, 000

= $ 50, 000 + $ 110, 000

= $ 160, 000 * Ans.

18. A cross-stitch store owner buys cross-stitch frame at $ 12, 500 each. How much should he sell each in order torealize a profit of 3/20 more than the buying price ?

Selling price = $ 12, 500 x (1 + $\frac{3}{20}$)

= $ 12, 500 ($\frac{23}{20}$)

= $ 14, 375 * Ans.

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15. A student had $ 1, 050 in his wallet. He spent $ 640 for books and school supplies. What part of his money did he spend?

Part of the money spent = $\frac{\$ 630 / \$ 210}{\$ 1050 / \$ 210}$

= 3 / 5 * Ans.

16. MS. Cecille Garcia saves 18% of her monthly salary of $ 16, 500. How much does she saved in a year?

Amount of money saved = 0.18 x $\frac{\$ 16, 500}{\text{month}}$ x 12 $\frac{\text{month}}{\text{year}}$

= 0.18 x $ 16, 500 x 12

= $ 35, 640 * Ans.

17. Mrs. Leny Ngo wishes to buy a second hand car, the cash price of which is $ 150, 000. Not having ready cash she agrees to pay 1/3 down and the balance in 10 monthly installments of 11, 000 each. What is the total price of the car ?

Total price of the car = ⅓ x $ 150, 000 + 10 x $ 11, 000

= $ 50, 000 + $ 110, 000

= $ 160, 000 * Ans.

18. A cross-stitch store owner buys cross-stitch frame at $ 12, 500 each. How much should he sell each in order torealize a profit of 3/20 more than the buying price ?

Selling price = $ 12, 500 x (1 + $\frac{3}{20}$)

= $ 12, 500 ($\frac{23}{20}$)

= $ 14, 375 * Ans.

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19. This year XYZ company's profit was $ 2, 440, 000, which is 22% more than last year's profit. How much was the profit last year ?

Let x - be the year's profit

x + 0.22x = $ 2, 440, 000

1.22x = $ 2, 440, 000

x = $\frac{\$ 2, 440, 000}{1.22}$

x = $ 2, 000, 000 * Ans

20. Mrs. Ramos pays $ 1, 530 for a dress at 15 % discount. How much is the marked price ?

Let x - be the marked price

Marked price - Discount = Selling price

x - 0.15 x = $ 1530

0.85x = $ 1530

x = $\frac{\$ 1540}{0.85}$

x = $ 1, 800 * Ans.

21. A customer buys 4 pairs of socks originally priced at $ 60.00 each. If the reduced price is $ 47.50, how much does he save on this purchase ?

Amount saved = 4 x ($ 60.00 - $ 47.50)
= 4 x $ 12.50
= $ 50.00 * Ans.

22. Gerard left City A to drive to City B at 6:15 A.M. and arrived at 1:45 P.M. If he averaged 60 km per hour andstopped one hour for lunch, how far is City A to City B ?

No. of hours :

6 : 15 to 11:45

1:45 PM - 6:15 PM

13:45 PM - 6:15 PM = 7:30 or 7 and 1/2 hours total time

total time traveled = 7 ½ hours - 1 hour (time spent for lunch) = 6 ½ hours.

distance = rate x time

60 = $\frac{\text{km}}{\text{hr}}$ x 6 ½ hours

= (60 x 6 ½) km

= [60 x 6 + 60 ½] km

= 360 + 30

= 390 km * Ans.

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23. The sum of $\sqrt{81}$ + $\sqrt{100}$ is _____ ?

square root of 81 is 9 and
square root of 100 is 10

therefore, 9 + 10 = 19 * Ans.

24. The sum of three consecutive integers is 54. Find the smallest integer.

Let x - be the first consecutive integer
Let x + 1 be the second consecutive integer
Let x + 2 be the third consecutive integer

x + (x + 1) + (x + 2) = 54
3x + 3 = 54
3x = 54 - 3
3x = 51
x = 51 / 3
x = 17 * Ans.

25. How many miles does a car travel if it averages at a rate of 35 miles per hour for 3 hours and 24 minutes?

time = 3 hrs and 24 min

= 3 hrs + 24 / 60 hr.
= 3 and ⅖ hrs.

distance = rate x time

= $\frac{35 \text{ miles}}{\text{hr}}$ x 3 ⅖ hrs

= (35 x 3 ⅖) miles

= (35 x 3) + (35 + ⅖) miles

= [105 + 14] miles

= 119 miles * Ans.

26. Elmer can deliver newspaper in his route for 1 ½ hours. Wowie who takes his place one day finds that it takes him 1 ½ longer to deliver these. How long will it take to deliver the papers if they work together ?

In one hour,

Elmer can do $\frac{1}{1}$ = $\frac{1}{3}$ = $\frac{2}{3}$ of the job

Wowie can do $\frac{1}{1\ ½ + 1\ ½}$ = $\frac{1}{3}$ of the job

(Part of the job finished in 1 hr.) x
(no. of hours) = 1 whole job

(⅔ + ⅓) x N = 1

$\frac{3}{3}$ x N = 1

1 x N = 1

N = 1 hour * Ans.

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27. If it takes h hours to paint the wall, what part of the wall is painted in one hour ?

part of the wall painted in 1 hour = 1 / h * Ans.

28. A sock of corn will feed 18 ducks for 54 days. How long will it feed 12 ducks ?

* This is an example of an inverse proportion problem. As the number of ducks decreases the number of days increases.

$N : \frac{1}{12} = 54 : \frac{1}{18}$

$N(\frac{1}{18}) = \frac{1}{12}(54)$

$N = \frac{1}{\cancel{12}_{2}} \times \cancel{54}^{27} \times \cancel{18}^{3}$ days

N = 81 days * Ans.

---

29. Find the next number in the series 1, 4, 9, 16, _____ ?

$1^2 = 1$
$2^2 = 4$
$3^2 = 9$
$4^2 = 16$
$5^2 = 25$ * Ans.

---

30. A bag is sold for $680 while marked at $800. What was the rate of the discount ?

rate of discount = $\frac{\text{discount}}{\text{marked price}} \times 100\ \%$

$= \frac{800 - 680}{800} \times 100\%$

$= \frac{120}{800} \times 100\%$

= 15 % * Ans.

---

31. Six hundred examinees passed the Licensure Examination last year. This represents the 8 ½ percent of the total examinees. How many examinees failed the exam?

let F - be the number of examinees who failed

8 ½ % : 600 = (100 - 8 ½) % : F

$\frac{1}{12} : 600 = \frac{11}{12} : F$

$\frac{1}{12} F = \frac{11}{12}(600)$

F = 6, 600 * Ans.

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32. If 4 miles = 6.44 km, then 14.49 km equals how many miles ?

4 miles : 6.44 km = x miles : 14.49 km

4 : 6.44 = x : 14.49
6.44x = 4 (14.49)
6.44x = 57.96
x = 57.96 / 6.44
x = 9 miles * Ans.

---

33. $\frac{(a^2 - 4b^2)\,c}{(a + 2b)}$ is equivalent to ac + _____ ?

$= \frac{(a + 2b)(a - 2b)}{(a + 2b)} \times c$

= (a - 2b) x c
= ac - 2bc
= ac + (-2bc) * Ans.

---

34. In a certain class the ratio of boys to girls is 4 : 5. If the class has 54 students, how many are girls ?

Girls = 5 / 9 (total number of students)

= (5 / 9) 54

= 30 girls * Ans.

---

35. Solve for x :

ax = bx + cx - d, a = b = c.

d = bx + cx - ax
d = x (b + c - a)

$x = \frac{d}{(b + c - a)}$

$x = \frac{d}{b + c - a}$ * Ans

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36. The ratio of men athlete to women in an athletic meet is 5 : 3 and the total number of athlete is 2, 400, how many additional women athlete would have to join to make the ratio of men to women 1 : 1 ?

C.iginal number of men;

(5 / 8) x 2, 400 = 1, 500

Original number of women;

(3 / 8) x 2, 400 = 900

To make the number of women equal to the number of men we must add (1500 - 900).

therefore, 600 women is needed. * Ans.

---

37. If prices are reduced by 20 %, quantity sold increase by 25 %. What is the net effect on the gross revenue?

Revenue = (price) x (Quantity sold)

$R_{old} = pq$
$R_{new} = (p - 0.20p) \times (q \times 0.25q)$
$= (0.80p)(1.25)\ pq$
$= (0.80)(1.25)\ pq$
$= 1\ pq$
$R_{new} = R_{old}$

therefore, the revenue remains the same * Ans.

---

38. The average of three numbers is xyz. If the sum of two numbers is x + y, what is the other number?

$\frac{\text{Sum of the items added}}{\text{no. of items added}}$ = average

$\frac{x + y + (\text{other number})}{3} = xyz$

$3[\frac{x + y + (\text{other number})}{\cancel{3}}] = xyz\ ]\ 3$

$x + y + \text{other number} = 3\ xyz$

other number = 3 xyz - (x + y) * Ans.

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39. When + 13 is added to - 15, the sum is _____ ?

Sum = +13 + (-15)
Sum = -2 * Ans.

---

40. When -15 is subtracted from -18, the difference is _____?

Difference = -18 - (-15)
Difference = -18 + 15
Difference = -3 * Ans.

---

41. When the product of (-4) and (-17) is divided by 2, the quotient is _____ ?

Product = $\frac{(-4)(-17)}{2}$

= 68 / 2
= 34 * Ans.

---

42. If 5x + 17 = 32, then x = _____ ?

5x + 17 = 32
5x = 32 - 17
5x = 15
x = 15 / 5
x = 3 * Ans.

---

43. Solve for M :

$\frac{M}{7} - \frac{M}{3} = 4$

$\frac{3M}{21} - \frac{7M}{21} = 4$

$\frac{-4M}{21} = 4$

$M = 4\left(\frac{-21}{4}\right)$

M = -21 * Ans.

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44. If x + y = 4a and x - y = 2b then y = _____ ?

x + y = 4a ------> x = 4a - y
x - y = 2b ------> x = 2b + y

x = x
2b + y = 4a - y
y + y = 4a - 2b
2y = 4a - 2b

$\frac{2y}{2} = \frac{4a - 2b}{2}$

$y = \frac{4a - 2b}{2}$

y = 2a - b * Ans.

---

45. If 0.37 m = 0.0111 then m = _____ ?

$m = \frac{0.0111}{0.37}$

$= \frac{11.1}{37}$

= 0.3 * Ans

---

46. If 1 / M = 4 and S = 2, what is S in terms of M ?

Since S = 2

$4 = \frac{1}{M}$

$2(2) = \frac{1}{M}$

$2S = \frac{1}{M}$

$S = \frac{1}{2M}$ *** Ans.**

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47. A horse is tied to a pole with a rope of 7 meters long. How much grazing area does it have?
(use π = 22 / 7).

Area = πr^2
$= \pi (7m)^2$
$= \frac{22}{7}(49m^2)$
$= 22(7m^2)$
$= 154m^2$ * Ans.

---

48. What number is missing in this sequence : 5, 7, 11, 17, _____ ?

5 + 2 = 7
7 + 4 = 11
11 + 6 = 17
17 + 8 = 25

therefore, 25 is the * Ans.

---

49. How many two-digit numbers can be formed from the digits 1, 2, 3, 4, and 5 if a digit cannot be used more than once?

5 - the five numbers can be used
4 - only four of the numbers can be used since repetition of the digits is not allowed

5 x 4 = 20

therefore, 20 numbers * Ans.

---

50. What is the value of x in 5 : x = x : 125 ?

5 : x = x : 125
x (x) = 5 (125)
$x^2 = 625$

$x = \sqrt{625}$
x = 25 * Ans.

---

51. If one bilao of pansit guisado serves 7 people, how many bilaos are needed to serve a banquet of 126 people?

N = no. of bilaos needed to serve 126 people

N : 126 = 1 : 7
N (7) = 126 (1)
7N = 126
N = 126 / 7
N = 18 * Ans.

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Solutions

1. What number is as much more than 8 as it is less than 32 ?

Let x - be the number

x - 8 = 32 - x
x + x = 32 +8
2x = 40
x = 40 / 2
x = 20 * Ans.

---

2. A container van that is 3 meters wide, 5 meters long and 4 meters high will transport 200 crates whose volume is 6 cubic meters. How many trips will it take to transport all the crates?

Let N - be the number of trips

No. of trips = (No. of crates) x $\frac{\text{volume}}{\text{crate}}$ x $\frac{\text{1 trip}}{\text{volume of the van}}$

$N = 200\ \cancel{\text{crates}} \times \frac{6\ m^3}{\cancel{\text{crate}}} \times \frac{1\ \text{trip}}{(3 \times 5 \times 4)m^3}$

$N = \frac{(200)(6)}{3 \times 4 \times 5}$

$N = \frac{1200}{60}$

N = 20 trips * Ans.

---

3. A rectangular block of copper, with dimensions 4m x 6m x 9m, is melted and recast into a cubical block. Find the length of the side of the cubical block.

$V_{\text{cubical block}} = V_{\text{rectangular block}}$

$S^3 = (4 \times 6 \times 9)\ m^3$

$S^3 = 216\ m^3$

$S = \sqrt[3]{216\ m^3}$

S = 6m * Ans.

---

4. There are 9 male teachers for every 14 female teachers. If there are 69 teachers in all, how many teachers arefemale?

$\frac{9 : 14}{23} = \frac{\text{Male : Female}}{69}$

No. of Female teachers = (69 / 23) x 14
= 3 x 14
= 42 * Ans.

---

5. What would be the closest approximation to $\sqrt{66}$?

$\sqrt{64} = 8$

$\sqrt{66} \cong 8.1$ *** Ans.**

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Mathematics Test V Solution - Page 106

6. Manny can do a certain job in 1 day, Anna can do the same job in 2 days, and Josie can do the job in 3 days. How many days will it take them to do the job if they work together?

One 1 day Manny can finish the whole job
Anna can finish 1/2 of the same job
Josie can finish 1/3 of the same job

Let N - be the days that it takes to finish the job if they work together.

$\left(\frac{1}{\ } + \frac{1}{\ } + \frac{1}{\ }\right) N = 1$

1 2 3

$\left(\frac{6 + 3 + 2}{6}\right) N = 1$

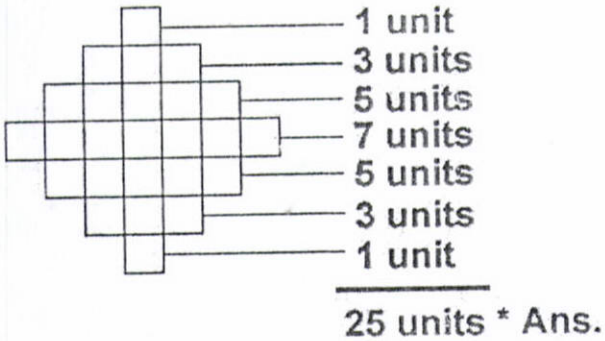
$\frac{11}{6} N = 1$

$N = 1 \times \frac{6}{11}$ (reciprocal of 11 / 6)

N = 6 / 11 day * Ans.

---

7. In the figure, all the line segments meet at right angles and each segments has a length of 1 unit. What is the area of the figure in square units?



---

8. If x - 3 = y, then $(y - x)^3$ = _____ ?

If x - 3 = y;

$-3 = y - x$
$(-3)^3 = (y - x)^3$
$-27 = (y - 3)^3$ * Ans.

---

9. A speed of 90 km per hour is equivalent to how many meters per second?

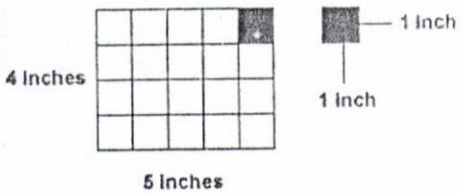
$= \frac{90 \text{ km}}{\text{hr}} \times \frac{1 \text{ hr}}{3600 \text{ sec}} \times \frac{1000 \text{ m}}{\text{km}}$

$= \frac{90 \times 1000}{3600} \frac{\text{m}}{\text{hr}}$

$= 25 \frac{\text{m}}{\text{sec}}$ * Ans.

---

10. A rectangular sheet of cardboard 5 inches long and 4 inches wide is cut into squares one inch on a side. What is the maximum number of such squares that can be formed?



There are 20 squares * Ans

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11. A housewife bought 3 kilograms of beef priced at $ 108.75 per kilogram. How much change did she receive from a five-hundred dollar bill?

Change = $ 500 - (3 x $ 108.75)
= $ 500 - $ 326.25
= **$ 173.75 * Ans.**

---

12. A delivery of 480 baskets of mangoes is divided into two fruit stands so that the difference between the two orders is 1/3 their average. What is the ratio of the smaller to the larger amount?

Let x - be the no. of baskets in the fruit stand.
Let 480 - x be the number in the second fruit stand.

$(480 - x) - x = \frac{1}{3}\left(\frac{x + y}{2}\right)$ ------> 480 - 2x = 80
------> 2x = 480 - 80
------> 2x = 400

but x + y = 480 since the total delivery = 480 $\frac{1}{3}\left(\frac{480}{2}\right)$ ------> **x = 200** **480 - x = 280**

The ratio is $\frac{200}{40} : \frac{280}{40}$ = **5 : 7 * Ans.**

---

13. When the first and the last digits of 2, 836 are interchanged, the new number is _____.

6,832 -----> the new number
6,832 - 2836 = 3996

therefore, the new number is 3,996 more than 2,836 * Ans.

---

14. If twice the value of a certain number is increased by 8 the result is 40. What is the number?

Let x - be the number

2x + 8 = 40
2x = 40 -8
2x = 32
x = 32 / 2
x = 16 * Ans

---

15. In a group of 120 persons, there are 32 more women than men. How many wome are there in the group?

Let x - be the number of women
Let x - 32 be the number of men

x + (x - 32) = 120
2x - 32 = 120
2x = 120 + 32
2x = 152
x = 152 / 2
x = 76 women * Ans.

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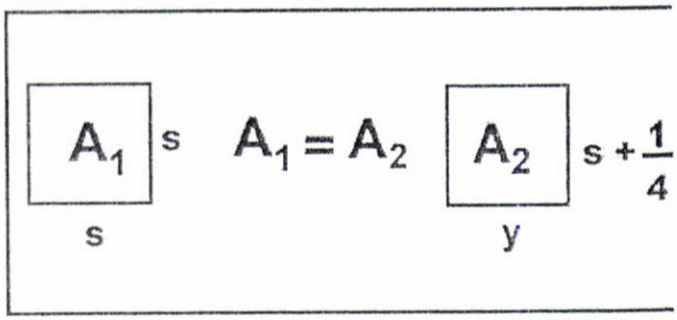
Mathematics Test V Solution - Page 108

16. If the dimensions of a square change in such a manner that the area remains constant, what must happen to the other side if one side will be increased t 1/4 of itself?



$(s + \frac{1}{4} s)\, y = s\,(s)$

$\frac{5}{4}(s)(y) = s^2$

$y = s^2 \left(\frac{4}{5s}\right)$

$y = \frac{4}{5} s$

$s = \frac{4}{5} s = \frac{1}{5} s$

therefore, it decreased by 1/5 of itself * Ans.

---

17. A man rowed 4 miles upstream for 2 hours. If the river flowed with a current of 2 miles per hour, how long did the man's return trip take?

Let x - be the rate of the boat in still water
Let 2x - be the rate of the boat upstream
Let 2 mph - be the rate of the current
Let (x + 2) - speed of the boat downstream

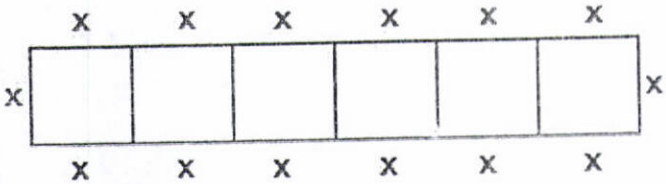
$rate_{up}$ x time = distance

(x - 2) (2) = 4
2x - 4 = 4
2x = 4 + 4
2x = 8
x = 4 miles / hr

$rate_{down}$ x time = distance

(x+2) (time) = 4
(4+2) (time) = 4
6 (time) = 4
time = 4 / 6
time = 2 / 3 hrs. * Ans.

18. The rectangle shown in the figure is divided into 6 equal squares. If the perimeter of the rectangle is 42 cm, what is the area of each square in cm^2 ?



14x = 42
x = 42 / 14
x = 3 cm.

Area of the squares = x^2
= $(3\ cm)^2$
= 9 cm^2 * Ans.

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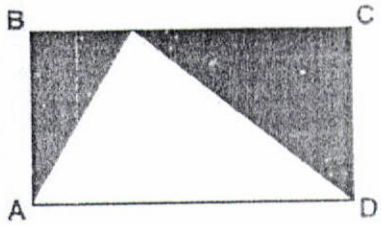
Mathematics Test V Solution - Page 109

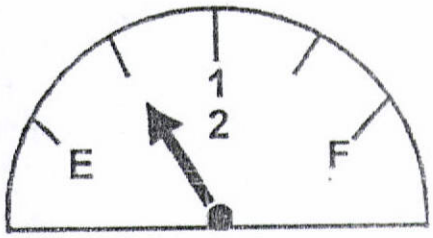
19. If the area of the rectangle ABCD shown below is 36 square units, how many square units is the area of the shaded region?



$A_{rectangle}$ = bh
$A_{rectangle}$ = 36
bh = 36

$A_{triangle}$ = 1/2 bh
= 1/2 (36)
= 18 sq. units * Ans.

20. This tank holds 48 liters of gasoline and the car averages 5 kilometers per liter. Approximately how manykilometers can a car travel this given guage?



The guage indicates that the tank is 1/4 full.

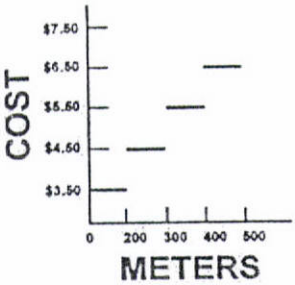
Let N - be the number of kilometers that can be traveled.

$N = (\frac{1}{4}\ \cancel{tank}) \times \frac{48\ liters}{\cancel{tank}} \times \frac{5\ km}{\cancel{liter}}$

= 1/4 x 48 x 5 km
= 60 km. * Ans

21. Which of the following graphs represents the taxi rates for a company that charges \$ 3.50 for the first 200 meters and \$ 1.00 for each additional 100 meters?

This is the approximate graph for the taxi rate, there is an abrupt change in the fare for every 100 meters change inthe distance.



* Ans.

22. A laboratory assistant was preparing a solution that should have included 40 milligrams of chemical. If he actually used 41.30 milligrams, what was his percentage error (to the nearest 0.01 %)?

% error = $\frac{\text{error}}{\text{correct value}}$ x 100%

= $\frac{41.30 - 40}{40}$ x 100%
= $\frac{1.3}{40}$ %
= $\frac{130}{40}$ %
= 3.25 % * Ans

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Mathematics Test V Solution - Page 110

23. Menthol drops come in packs of 8 for \$ 3.60. Butterballs come in packs of 6 for \$ 2.25. Aida bought 48 pieces of candy. How many of each kind of candy did she buy, if she spent \$ 19.80?

b. 3 packs of Menthol drops and 4 packs of Butterballs.

= (3 x \$ 3.60) + (4 x \$2.25)
= \$ 10.80 + \$ 9.00
= \$ 19.80 * Ans.

Use the following table for questions 23 and 24.

TAX TABLE I						
(FOR COMPENSATION INCOME)						
If taxable income is :				Tax Due is :		
		NOT OVER $	2,500	0 %		
OVER $	2,500	BUT NOT OVER $	5,000	1 %		
OVER $	5,000	BUT NOT OVER $	10,000	$ 25 + 3 %	OF EXCESS OVER $	5,
OVER $	10,000	BUT NOT OVER $	20,000	$ 175 + 7 %	OF EXCESS OVER $	10,
OVER $	20,000	BUT NOT OVER $	40,000	$ 875 + 11 %	OF EXCESS OVER $	20,
OVER $	40,000	BUT NOT OVER $	80,000	$ 3,075 + 15 %	OF EXCESS OVER $	40,
OVER $	80,000	BUT NOT OVER $	100,000	$ 6,075 + 19 %	OF EXCESS OVER $	80,
OVER $	100,000	BUT NOT OVER $	250,000	$ 10,875 + 24 %	OF EXCESS OVER $	10
OVER $	250,000	BUT NOT OVER $	500,000	$ 49,875 + 29 %	OF EXCESS OVER $	250,
OVER $	500,000	BUT NOT OVER $		$ 122,375 + 35 %	OF EXCESS OVER $	500,

24. How much tax is due on a taxable income of \$65, 000?

Tax due = \$6, 075 + 0.19 (\$65,000 - \$60,000)
= \$6, 075 + 0.19 (\$5,000)
= \$6, 075 + \$950
Tax due = \$7, 025 * Ans.

25. How much tax is due on a taxable income of \$55, 000?

Tax due = \$3, 075 + 0.15 (\$55,000 - \$40,000)
= \$3, 075 + 0.15 (\$15,000)

= \$3, 075 + \$2,250
Tax due = \$5, 325 * Ans.

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26. Anabelle paid \$ 19, 675 tax. If x was her income, which of the following statements is TRUE?

b. \$ 19, 675 tax due belongs to this range * Ans.

Over \$ 100, 000 but not over \$ 250, 000
\$ 13, 675 + 24% of excess over \$ 100, 000

therefore, Anabelle's income is between \$ 100,000 and \$ 250,000

27. Mang Pablo decided to keep a record of the money he collects from his newspaper route. Using the informationgiven, how much money does Mang Pablo collect in the month of February? (Note : Assume that February has 28 days and the February 1 was on a Sunday).

DELIVERY	WEEKLY RATE		NUMBER OF CUSTOMERS	INCOME
Daily Except Sunday	\$ 42	x	75	\$ 3, 150
Sunday Only	\$ 10	x	60	\$ 600
all week (daily and Sunday)	\$ 52	x	120	\$ 6, 240

* Ans - Total \$ 9, 990

28. If 10 soldiers can survive for 12 days in 15 packs of rations, how many packs will be needed for 8 men to survivefor 18 days?

Let N - be the number of packs

$\frac{N \text{ packs}}{8 \text{ men} \times 18 \text{ days}}$ -----> $\frac{15 \text{ packs}}{10 \text{ men} \times 12 \text{ days}}$ ---> $N = \frac{15}{10 \times 12} \times (8 \times 18)$ packs

N = 18 packs * Ans.

29. If it takes Victor twice as long to earn \$ 600 as it takes Warnen to earn \$ 400, what is the ratio of Victor's per day to Warnen's pay per day?

Warnen earns 400 in x days
Victor earns 600 in 2x days
Therefore he earns 300 in 2x days

The ratio of Victor's pay to
Warnen's pay in x days is 400 : 300 or 4 : 3 * Ans

Civil Service Reviewer Post 111/159
Mathematics Test V Solution - Page 112

Use the following table for questions no. 30 - 32.

TYPE OF VEHICLE - COST OF FUEL FOR 100 - KM TRIP					
car	-	\$ 500	motorcycle	-	\$ 175
bus	-	\$ 875	truck	-	\$ 2,000
airplane	-	\$ 3, 000			

30. What is the cost of fuel for a 120-km trip by car?

Cost of fuel = 120 km x $\frac{\$\ 500}{100 \text{ km}}$ ----> 120 x \$ 5 -----> \$ 600 *Ans.

31. If the total wages of a bus driver for 100-km trip is \$ 970, and the only cost for a bus are the fuel and the driver's wage. How much should a bus company charge to charter a bus with a driver for a 200-km trip in order to obtain 50% more than the cost?

Cost for a 100-km trip = $C_{fuel} + C_{driver}$ ------> 875 + 970 ------> \$ 1,845

Total Cost = (\$ $\frac{1,845}{100 \text{ km}}$ x 200 km) x 1.50 ------> \$ 5, 535 * Ans.

32. If 5 buses, 9 cars, 4 motorcycles make a 100-km trip. What is the average fuel cost per vehicle?

Average Cost = $\frac{\text{total cost of fuel}}{\text{total no. of vehicle}}$ ----> $\frac{(5 \times \$\ 875) + (9 \times \$\ 500) + (4 \times \$\ 175)}{5 + 9 + 4}$

$\frac{\$\ 4375 + \$\ 4500 + \$\ 700}{5 + 9 + 4}$ ------> \$ $\frac{9575}{18}$ ----> \$ 531.94 * Ans

33. A store owner bought 2 dozen cans of corned beef at \$ 30 each. He sold two-thirds of them at 25% profit but was forced to take a 30% loss on the rest. What was his total profit (or loss) on the item?

Total Selling Price

= [$\frac{2}{3}$ (24 cars) x \$ $\frac{30}{car}$ x (1 + 0.25)] + [$\frac{1}{3}$ (24 cars x $\frac{\$\ 30}{car}$) (1 - 0.30)]

= [$\frac{2}{3}$ (24) x \$ 30(1.25)] + [$\frac{1}{3}$ (24)(\$ 30)(0.70)]

Total Selling Price = \$ 600 + \$ 168
= \$ 768

Total cost = $\frac{\$30}{car}$ x 24 cars = \$720

Gain = Total selling price - Total cost
= \$ 768 - \$ 720
= \$ 48 * Ans.

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Mathematics Test V Solution - Page 113

Use the table below for questions no. 34 - 36.

	% OF PROTEIN	% OF CARBOHYDRATES	% OF VITAMINS	COST PER 100 GRAM
Salad A	20	15	40	\$ 25.00
Salad B	10	25	30	\$ 30.00
Salad C	20	10	50	\$ 35.00

34. The cost of x purchasing grams of Salad A, y grams of Salad B and z grams of Salad C will be _____.

Cost of Salad A = $\frac{\$\ 200}{100 \text{ gm}}$ x x gm x $\frac{100¢}{P\ 1,000}$ = 25x ¢

Cost of Salad B = $\frac{\$\ 30}{100 \text{ gm}}$ x y gm x $\frac{100¢}{P\ 1,000}$ = 30y ¢

Cost of Salad C = $\frac{\$\ 35}{100 \text{ gm}}$ x z gm x $\frac{100¢}{P\ 1,000}$ = 35z ¢

therefore, the total cost is (25x + 30y + 35z) cents * Ans.

35. Which of the following diets would supply the most grams of vitamins?

c. Salad A + 50g Salad B + (300 g) Salad C

= 0.40 (200) + 0.30 (100) + 0.50 (200) ----> 80 + 30 + 100 ----> 210 gms * Ans.

36. All of the following diets would supply at least 85 grams of carbohydrates. Which of the diets costs the least?

b. \$ 25 (3) + \$ 30 (1) + \$ 35 (2)
\$ 75 + \$ 30 + \$ 70 = \$ 175 * Ans.

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Mathematics Test V Solution - Page 114

37. If jackfruits are twice as expensive as watermelons, and watermelon is one-third as expensive as durians. What is the ratio of the price of one jackfruit to one durian?

Let x - be the cost of watermelon
Let 2x - be the cost of the jackfruit
Let 3x - be the cost of the durian

= Jackfruit : Durian
= 2x : 3x
= 2 : 3 * Ans.

38. A retailer buys a pack of sugar from Uniwide Sales for \$ 459. He then marks up the price by 1/3 and sells it at a discount of 16 2/3 %. What was his profit in this item?

Marked price = \$ 459 + 1/3 (\$ 459) ----------> 459 + \$ 153 -------> \$ 612

Discounted Price = \$ 612 - 16 % (\$ 612) ---------> \$ 612 - 1/6 (\$ 612) ------> \$ 510

Profit = Selling Price - Cost

= \$ 510 - \$ 459
= \$ 51 * Ans.

39. Forrest Gump walks down the road for 30 minutes at a rate of 3 MPH. He waits 10 minutes for a bus, which brings his back to his starting point at 4 : 25. If he begun his walk at 3 : 35 the same afternoon, what was the average speed on the bus?

d_{walked} = rate x time

= 3 $\frac{\text{mi.}}{\text{hr.}}$ x $\frac{1}{2}$ hr. ------> d_{walked} = 1.5 miles

$time_{travelled\ by\ the\ bus}$ = 4:25 - 3:35 - :30 - :10 ------> 10 mins ----> 1/6 hr.

$speed_{of\ the\ bus}$ = $\frac{distance}{time}$ --------> $\frac{1.5\ minutes}{1/6\ hr}$ ---> (1.5 x 6) mi/hr ---> 9 mi/hr * Ans.

40. Miss Felisa Gascon had $ 2 million to invest. She invested part of it at 4% a year and the remainder at 5% per year. After one year she earned $ 95, 000 in interest. How much of the original investment was placed at 5% rate?

Let x - be the amount of invested at 5%
Let 2,000,000 - x be the amount invested at 4%

0.05x + 0.04 (2,000,000 - x) = 95000
0.05x + 80000 - 0.04x = 95000
0.01x = 95000 - 80000
0.01x = 15000
x = 15000 / 0.01
x = 1, 500, 000 * Ans.

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Mathematics Test V Solution - Page 115

41. Which of the following is NOT a possible remainder if a positive integer is divided 5?

The possible remainders are 0, 1, 2, 3, 4,

therefore, 5 is not a possible remainder * Ans.

42. In a building plan, 1/4 cm represents 2 meters. If the main entrance is supposed to be 8 meters wide, how wide would its representation be on the plan?

Let N - be the representation of the plan

1/4 : 2 = N : 8

2N = (1/4) (8)
2N = 8/4
2N = 2
N = 2/2
N = 1 cm. * Ans.

43. A real state agent marks a certain property up 30% above the original cost. Then he gives a client a 15% discount. If the final selling price of the property was $8.619 M, what was the original cost of the property?

Let x - be the original cost

(x + 0.30x) (1 - 0.15) = $8.619 M
(1.30x) (0.85) = $8.619 M
1.105x = $8.619 M
x = $8.619 M / 1.105
x = 7.8 M * Ans.

44. If 2/3 the perimeter of a square is 16, then what is the length of one of its sides?

2/3 P = 16
P = 16 (3/2)
P = 48/2
P = 24

Perimeter formula for SQUARE is P = 4S.

P = 4S
24 = 4S
24 = 4S
24/4 = S
6 = S

therefore, S = 6 * Ans.

45. What values of x can satisfy the equation (3x + 6) (2x - 8) = 0 ?

3x + 6 = 0
3x = -6
x = -6 / 3
x = - 2

2x - 8 = 0
2x = 8
x = 8 / 2
x = 4 * Ans.

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Mathematics Test V Solution - Page 116

46. If 8 men can plant 288 trees in one day, how many trees can 12 men plant in 5 days?

Let N - be the number of trees

N = $\frac{288\ trees}{8\ men - 1\ day}$ x 12 men x 5 days -----> $\frac{288 \times 12 \times 5}{8}$ trees

N = 2, 160 trees * Ans.

47. If the length of a rectangle is increased by 25% and its width is decreased by 20%, what happens to the area of the triangle?

$A_{orig.}$ = LW

A_{new} = L (1+0.25) x W (1 - 0.20)
= L (1.25) x W (0.8) -----> (1.25) (0.8) LW
A_{new} = 1 x LW
A_{new} = $A_{orig.}$

therefore, no change in the area * Ans.

48. The formula for the volume of a sphere is $V = 4/3\ \pi r^3$. If the radius (r) is tripled, what will be the ratio of the new volume to the original volume?

$V_{orig.} = 4/3\ \pi r^3$

$V_{new} = 4/3\ \pi(3r)^3$ -----> $= 4/3\ \pi(27r^3)$ -------> $27\ (4/3\ \pi r^3)$
$V_{new} = 27\ V_{orig.}$ -----> $V_{new} : V_{orig.}$ **= 27 : 1 * Ans.**

49. The scale on a map is 1 : 8. If a surveyor reads a certain measurement on the map as 4.6 cm instead of 5.0 cm, what will be the resulting approximate percent error on the full size model?

% error = $\frac{error}{correct\ value}$ x 100% -> $\frac{5.0 - 4.6}{5.0}$ x 100% -> $\frac{0.4}{5}$ x 100% -> **8% *Ans.**

50. In a certain recipe, 225 grams of beef are called for to make 6 servings. If Mrs. Alferez wants to use the recipe for 8 servings, how many grams of beef must she use?

Let N - be the number of grams required

225 : 6 = N : 8

6N = 8(225)
6N = 1800
N = 1800 / 6
N = 300 grams. * Ans.

Civil Service Reviewer Post 116/159
Vocabulary & Idiomatic Expressions - Page 117

Select the best meaning for each of the underlined word and write the appropriate letter in the blank.

_____1. The lotto winners will be selected at random.
a. by chance
b. by competition
c. by testing
d. by interviewing

_____2. Dr. Antonio prescribe massive doses of antibiotics for his patients with tuberculosis.
a. daily
b. double
c. heavy
d. encourage

_____3. Carry on with your work.
a. continue
b. carry the work
c. stop
d. be on time

_____4. Cleanliness is still at a discount in many parts of the country.
a. valued fully
b. not to be valued fully
c. attended to
d. believed

_____5. Mr. Henry Sy is now rolling in money.
a. very rich
b. famous
c. losing money
d. successful in business

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Vocabulary & Idiomatic Expressions - Page 118

_____6. Jek os the apple of his mother's eye.
a. adored
b. dearly loved
c. always watched
d. pride

_____7. He got the money to fund his checks in the bank at the eleventh hour.
a. 11:00 AM
b. 11:00 PM
c. just in time
d. 11th hour of the day

_____8. She is generous to a fault.
a. excessively
b. seldom
c. rarely
d. infrequent

_____9. The marketing officers were asked to go over the figures in their reports before the conference.
a. compute
b. calculate
c. revise
d. review

_____10. We were forced to postpone the meeting.
a. call off
b. put off
c. delay
d. do without

Civil Service Reviewer Post 118/159
Vocabulary & Idiomatic Expressions - Page 119

_____11. Punctuality is imposed in this office.
a. being cheerful
b. being courteous
c. being on time
d. being efficient

_____12. Jomar resolved to act more wisely next time.
a. promised
b. hoped
c. decided
d. consented

_____13. The woman reported that the diamonds snatched from here were genuine.
a. valuable
b. real
c. imitations
d. synthetic

_____14. Myla loves to eat a prodigious amount of home-made bread.
a. tiny
b. moderate
c. huge
d. slight

_____15. MSA Math Tutoring Center and Gerpress Printing are going to merge by the middle of the year.
a. change owners
b. become one
c. expand
d. divide into two

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Vocabulary & Idiomatic Expressions - Page 120

_____16. It is futile to argue with the boss once he has made up his mind.
a. useful
b. useless
c. hopeful
d. encouraging

_____17. One symptom of H-fever is nose-bleeding.
a. symbol
b. caused
c. sign
d. pain

_____18. The post is titled; please straighten it.
a. sloping
b. high
c. adjustable
d. level

_____19. The union's grievance committee met with the school directors to protest the teacher's dismissal.
a. retirement
b. personnel
c. scholarship
d. complaint

_____20. A conscientious teacher spends hours preparing lesson plans and computing student's grades.
a. creative
b. careful
c. proficient
d. efficient

Civil Service Reviewer Post 120/159
Vocabulary & Idiomatic Expressions - Page 121

_____21. His boss appeared to be in an affable mood that Albert decided to ask for a raise.
a. agreeable
b. cheerful
c. courteous
d. uncertain

_____22. Three authors collaborated in preparing this book.
a. work together
b. collate
c. communal
d. contribute

_____23. The DPWH secretary obeyed the president's order in a complaisant manner.
a. obliging
b. make perfect
c. complaint
d. making up for

_____24. Mrs. Leny Ngo cannot keep her complicity in this affair secret very long.
a. complication
b. involvement
c. comprise
d. conspiracy

_____25. The search for a consort for the heiress of the throne ended happily.
a. escort
b. body guard
c. husband
d. prince

Civil Service Reviewer Post 121/159
Vocabulary & Idiomatic Expressions - Page 122

_____26. Miss Sabina's employer offered to defray the cost of her trip to Hong Kong.
a. provide for the payment of
b. charge
c. turn side
d. reduce

_____27. The Saudi Arabian Government decapitated three criminals in March, 1996.
a. hang
b. imprisoned
c. beheaded
d. release

_____28. Japanese cuisine is now famous in Manila.
a. fast food
b. chefs
c. restaurant
d. style of cooking

_____29. Her exemplary performance was mentioned in the meeting.
a. effort
b. effective
c. outstanding
d. ineffective

_____30. When Lea was asked to sing, she did not falter.
a. hesitate
b. pretend
c. give-in
d. go-on

Civil Service Reviewer Post 122/159
Synonyms - Page 123

Direction : You are given four options in each number (a, b, c, d). Choose the correct letter which is similar in meaning to the given word.

_____1. ABORTIVE
a. fruitful
b. consuming
c. unsuccessful
d. familiar

_____2. ABSTINENCE
a. unrestrained
b. overdosing
c. self-indulgence
d. restrained eating or drinking

_____3. AUGMENT
a. attract
b. increase
c. aware
d. anoint

_____4. AVENGE
a. vindicate
b. turn away
c. avert
d. prevent

_____5. BOISTEROUS
a. sedate
b. noisy
c. supportive
d. expurgate

_____6. BROCHURE
a. paper
b. pamphlet
c. pin
d. map

_____7. CHASTE
a. pure
b. immortal
c. virgin
d. saint

_____8. COERCE
a. collect
b. force
c. scold
d. abort

_____9. CONSTRUE
a. contradict
b. question
c. surprise
d. explain

_____10. CONSENSUS
a. order
b. effect
c. rational
d. general agreement

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Synonyms - Page 124

_____11. DEFAULT
a. perfection
b. discard
c. failure to act
d. defeat

_____12. EFFIGY
a. dummy
b. effective
c. effort
d. elevate

_____13. EGRESS
a. treasure
b. suffice
c. exist
d. entrance

_____14. FRANCHISE
a. expansion
b. license
c. branch
d. fad

_____15. GARNISH
a. adorn
b. measured
c. gamble
d. injure

_____16. INGENUOUS
a. natural
b. insert
c. innovate
d. dignity

_____17. MILITANT
a. troop
b. combative
c. paternal
d. servile

_____18. MIRE
a. entangle
b. mirage
c. error
d. courage

_____19. WINSOME
a. magical
b. tolerance
c. recovery
d. pleasing

_____20. SWERVE
a. skew
b. fast
c. swift
d. hit

Civil Service Reviewer Post 124/159
Antonyms - Page 125

Direction : You are given four options in each number (a, b, c, d). Choose the correct letter which is opposite in meaning to the given word.

_____1. SUMPTUOUS
a. restrained
b. lavish
c. splendid
d. rich

_____2. FICKLE
a. discern
b. cordial
c. loyal
d. liberate

_____3. COMPLY
a. conform
b. rebel
c. obey
d. observe

_____4. CASTIGATE
a. penalize
b. punish
c. berate
d. reward

Civil Service Reviewer Post 128/159
Verbal Reasoning - Page 129

Select the best answer for each and write the appropriate letter in the blank.

_____1. Static is the opposite of
a. resistant
b. dynamic
c. tardy
d. electrical

_____2. Modest is to vain as foolish is to
a. pretty
b. conceit
c. wise
d. proud

_____3. Navy is to sea as Army is to
a. land
b. mountains
c. air
d. ships

_____4. Cube is to square as sphere is to
a. circle
b. ball
c. polygon
d. triangle

_____5. Car is to chauffeur as horse is to
a. vehicle
b. butler
c. jockey
d. cart

_____6. Head is to hat as foot is to
a. hair
b. glove
c. face
d. sock

_____7. Woman is to feminine as man is to
a. boy
b. masculine
c. guy
d. male

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Verbal Reasoning - Page 130

_____8. Word is to sentence as sentence is to

a. phrase
b. letter
c. sentence
d. paragraph

_____9. Always is to often as never is to
a. occasional
b. usual
c. seldom
d. everytime

_____10. Farm is to fence as bird is to
a. hedge
b. feather
c. warehouse
d. stake

_____11. Doctor is to nurse as executive is to
a. accountant
b. salesman
c. desk
d. secretary

_____12. Wealth is to indigent as nourishment is to
a. happiness
b. emaciated
c. stature
d. variety

_____13. Physician is to infirmary as judge is to
a. studio
b. brief
c. blueprint
d. courthouse

_____14. Event is to memories as fire is to
a. delay
b. waves
c. ashes
d. melancholy

_____15. Alphabet is to letter as Zodiac is to
a. beacon
b. sign
c. prophecy
d. prediction

Civil Service Reviewer Post 130/159
Identifying Errors - Page 131

Direction : Choose the underlined words or phrases labelled (A, B, C, D) which are n accepted to formal written English. Choose letter (E) if there is no error.

_____1. Although small in size, Japan has a greater impact on Asian
A B C
economy than any other country. No error.
D E

_____2. Quit smoking not only prolongs life by reducing heart
A B C
disease but lessens the risk of cancer. No error.
D E

_____3. Jonathan Livingstone Seagull, the book that mac' Richard
A
Bach famous, has became a best seller got readers of all ages. No error.
B C D E

_____4. Scientists have long talked about objects in Mars and
A B
described these objects with increase assurance. No error.
C D E

_____5. I haven't seen the movie and neither has she. No error.
A B C D E

_____6. During election campaigns in ARMM, politicians
A
often hold frequent debates regarding SPCPD. No error.
B C D E

_____7. The common notion that peanut is an excellent food
A
for improving the brains is not supported by any scientific
B C D
findings. No error.
E

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Identifying Errors - Page 132

_____8. AIDS researchers have done great progress; still, many aspects of this
A B
disease need further study. No error.
C D E

_____9. Pneumonia, a much more serous illness than flu, strikes with a sudden
A B
fever, cough, chills, and backache. No error.
C D E

_____10. Year after year, tourists from all over the world travel to the Philippines
A B
to visit a birthplace of Dr. Jose Rizal. No error.
C D E

_____11. They are waiting in the corridor for half an hour. No error.
A B C D E

_____12. The engineer has finished his plans a week ago. No error.
A B C D E

_____13. I don't see Daniel since last Saturday. No error.
A B C D E

_____14. Ana is practicing the piano since early this morning. No error.
A B C D E

_____15. After the bell rings, it was time to close the gate. No error.
A B C D E

Civil Service Reviewer Post 132/159
Reading Comprehension - Page 133

Direction : Each passage below is followed by questions based on its content. Answer all questions following a passage on the basis of what is stated and implied in it.

It is important to note that most accidents are psychological in noture, not mechanical. Seventy-eight percent of all vehicles involved in fatal accident are found to be in good conditions. The fact that, in the twenty-two percent, the problems are usually in tires, lights, or brakes, most of which the driver possibly aware of, and that he goes on driving anyhow, make these accidents seem to be appropriately characterized as ones in which there is also a strong psychological factor.

_____1. All of the following facts are included in the passage EXCEPT which one of the following:

a. Psychological factors contribute much less than mechanical factors.
b. Seventy-eight percent of all vehicular accidents involve vehicles in good condition
c. Vehicles with defects involve in twenty-two percent of all vehicular accidents.
d. Vehicles with defective brakes, tires, lights are usually known by their drivers.

_____2. The author implies that

a. defects in brakes, lights or tires do not result in accidents
b. accidents which are caused by mechanical failures are not the fault of the driver
c. if mechanical defects were corrected seventy-eight percent of the accident could be avoided.
d. if the driver is aware that his vehicle has a mechanical defect and drives it anyway, the accident that may result could not be attributed to mechanical, but psychological factors.

A foreword is written by someone other than the author; a preface gives the author his first opportunity to address the reader directly. Many reviewers turn immediately to the preface of a book, before reading the contents. They want to know the author's motivation for writing the book, how it was written, and any other material that will make their review more interesting.

_____3. In the above passage, the author stresses

a. the author's motivation for writing the book
b. the definition of a foreword
c. the importance of a good book review
d. the importance of a preface and of writing a good one.

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Reading Comprehension - Page 134

_____4. According to the author, all of the following are true EXCEPT

a. a preface gives the author his first opportunity to address the reader directly.
b. many reviewers turn immediately to the preface of a book before reading the contents
c. both foreword and preface are written by the author
d. the preface states the author's motivation for writing book

Although there are many attributes of maturity, one that is obviously important may be singled out: the ability to make fruitful, loving relationships with other people on equal terms, without either being dominated or dominating. This achievement implies an acceptance of the other person as he or as she is, without any wish to alter, to direct, or to submit; a recognition of the other person as a separate entity and therefore of oneself as a separate entity also.

_____5. A word that can be used in place of "alter" as used in this passage is

a. reject
b. accept
c. change
d. educate

_____6. From this passage, one could conclude that

a. the ability to make fruitful, loving relationships with other people on equal terms is he most important attribute of maturity.
b. the rate of maturation is different from individual to individual
c. the ability to make fruitful, loving relationships with other people on equal terms can be taught.
d. the ability to make fruitful, loving relationships with other people on equal terms is the only attribute of maturity
e. every human beings has the ability to make fruitful, loving relationships with other people on equal terms

Civil Service Reviewer Post 134/159
Reading Comprehension - Page 135

Enzymes are organic compounds. These compounds contain the element carbon. Enzymes are made in the cell and functions as catalysts. A catalyst speeds up achemical reaction without taking past in the reaction. It is neither changed in any way nor destroyed by the reaction taking place. Each enzyme may take care of only one reaction. There are many enzymes in a living cell because there are many chemical reactions taking place all the time. Without enzymes, the cell would not be able to work.

_____7. According to the author, all of the following are true about enzymes EXCEPT

a. Enzymes are organic compounds
b. Enzymes are made in the cell
c. Enzymes speed up s chemical reaction
d. There are many enzymes in a living cell
e. The cell would be able to work without enzymes
f.

_____8. From the passage, one could conclude that

a. enzymes are important in inheritance
b. enzymes are made of protein
c. enzymes are indispensable for the cell to do its work
d. enzymes can slow down chemical reaction
e. enzymes function within a very narrow range of acidity of alkalinity.

An argument has gone on for years that focuses on the question of how much monetary or other help should be given to the poor. The argument on one side stresses the deprivation and misfortunes those of low income must carry through and appeals to the moral instincts of those in government positions to use compassion in their judgments. On the other side, people speak about the role that laziness has played in developing poverty and how public assistance progress vitiate incentives to work and to save.

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Reading Comprehension - Page 136

_____9. Which of the following would be a good title for the ideas in this passage?

a. How Much Should be Granted to the Poor?
b. Government Assistance
c. Poverty and the Poor
d. The Poverty Problem
e. Human Rights

_____10. According to the above passage, providing assistance for the poor is

a. an important ingredient of a democracy.
b. a debatable question.
c. not a good choice.
d. just perpetuating poverty.
e. not up to those in policy-making positions.

No, your autobiography is not a marketable subject, unless you are a movie star, politician, or other type of celebrity. A book concerning your travels abroad is not a likely candidate either.
A marketable subject is one that is of interest to the general public or at least appeals to a sizeable speciality group, and that has not been adequately covered elsewhere. Remember the six magic words: "Find a need and fill it."

_____11. According to the author, all of the following are true about a marketable subject for a book EXCEPT

a. one that is of interest to the general public
b. appeals to a sizeable speciality group
c. tackles a topic that has not been adequately covered elsewhere
d. a book concerning your travels abroad
e. autobiography of a celebrity

_____12. A good title for this selection would be

a. My Autobiography
b. Have You Chosen a Marketable Subject?
c. How to Write a Book
d. How to Write an Autobiography
e. How to Write an autobiography

Civil Service Reviewer Post 136/159
Talahulugan - Page 137

Panuto: Piliin ang salitang pinakamalapit ang ibig sabihin sa salitang may salungguhit.

_____1. Itakda ang araw ng kasal.

a. Italaga
b. Itunton

_____2. Itaguyod sa pag-aaral.

a. Subaybayan
b. Ilagay

_____3. Kalaro ni Anabelle.

a. Kasama sa laro
b. Kasama

_____4. Nayanig ang lupa.

a. Naalog
b. Nagiba

_____5. Mga karapatang nauukol sa tao.

a. angkop
b. halaga

_____6. Maganda ang pagkakalimbag sa aklat na ito.

a. pagsusulat
b. pakakaimprenta

_____7. Matalima kaya ni Jose ang utos ng ina?

a. Masunod
b. Masuway

_____8. Mahinusay na sagot.

a. Maayos
b. Magalang

_____9. Malimang sa pagsukli.

a. Malito
b. Tama

_____10. Nakaririmarim na gawain.

a. Nakakamuhi
b. Kahanga-hanga

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Talahulugan - Page 138

_____11. Nagaarimuhunan si Anita.

a. nangangaral
b. nagtitipid

_____12. Nakakatulig na ingay.

a. nakakabingi
b. nakakagalak

_____13. Lapnos na daliri.

a. putol
b. laplap

_____14. Palaib na naman ang buwan, kaya mainit ang ulo niya.

a. palaki
b. paliit

_____15. Si Miguelito ay napaka_likit_.
a. masunurin
b. matigas ang ulo

_____16. Ang Iraq ay _libid_
sa kalaban.
a. marami
b. napapaligiran

_____17. Ang bato ay nahulog sa _libok_
.
a. ilog
b. bangin

_____18. _Ligaligin_
ang kaisipan.
a. bagabagin
b. payapain

_____19. Magaganda ang kanilang _daral_
.
a. dala
b. kasangkapan

_____20. Ang _dasto_
ng kanyang kamison sa manipis nyang damit ay kitang kita.
a. bakas
b. burda

Civil Service Reviewer Post 138/159
Wastong Gamit - Page 139

Punan ng tamang sagot ang patlang sa bawat pangungusap.

_____1. Si Aling Ana ay _____ sa mga lumang kagamitan ng mga anak.
a. matipid
b. masinop

_____2. Ang sawing palad na ina ay naging _____ sa pagkawala ng kanyang anak.
a. tulala
b. tunganga

_____3. Mag-ingat sa pagliliinis nang inyong _____.
a. tainga
b. tenga

_____4. Ang larawan ng kanyang impo ay _____.
a. luma na
b. matanda na

_____5. Ang aking ama ay _____ nang maaga.
a. bumangon
b. nagbangon

_____6. Ang bubungan ng gusali ay _____.
a. butas-butas na
b. punit-punit na

_____7. Ang noo ni Elizabeth ay _____.
a. malawak
b. malapad

_____8. Ang bulok na isda ay _____.
a. humahalimuyak
b. umaalingasaw

_____9. Liku-likong landas ang kanilang _____ sa paghahanap sa nawawalang bata.
a. tinalunton
b. tinakbo

_____10. Taos-pusong pasasalamat ang aming _____ sa inyong lahat.
a. ibinibigay
b. ipinaabot

Civil Service Reviewer Post 139/159
Wastong Gamit - Page 140

_____11. Tapat ang binata sa kanyang _____.
a. pangarap
b. pangako

_____12. Ang taong magalang ay _____ ng balana.
a. kinalinisan
b. kinaluluqdan

_____13. Ang _____ ay tiyak na magtatagumpay.
a. nagsisikap
b. magsikap

_____14. Ang nangingislap na mga mata ng dalaga ay _____ ng kaligayahan.
a. nagbabadya
b. nagagawa

_____15. Napapaligaya mo ang iyong mga magulang _____ mabuti kang anak.
a. kung
b. kong

_____16. Ang mga magiang ay _____ na nangangaral sa mga anak na naliliihis ng landas.
a. mahina
b. malumanay

_____17. Marahang lumakad ang parada nang _____ dumating.
a. sila
b. sila'y

_____18. Masipag _____ nang liksyon si Philip kaya nanguna siya sa pagsusulit.
a. mag-aral
b. mag-aaral

_____19. _____ ng hangin ang makapal na ulap.
a. Inahon
b. Tinangay

_____20. Ang paksang pinag-uusapan ay _____ sa Pork Barrel Fund.
a. tungkol
b. sapagkat

Civil Service Reviewer Post 140/159
Analytical Ability Test - Page 141

Select the best answer for each and write the appropriate letter in the blank.

_____1. Orani is bigger than Abucay. Limay is bigger than Orani. Which town is the smallest?
a. Orani
b. Abucay
c. Limay
d. can't be determined from the given information

_____2. Cecille and Joan are fair. Angela and Alexine are dark. Cecille and Alexine are tall. Who is tall and dark?
a. Cecille
b. Joan
c. Angela
d. Alexine

_____3. ***If you present a blue pass, then you may enter the gate of each Echanted Kingdom.*** If the statement above is true, which of the following must also be true:
I. If you do not present a blue pass, then you may not enter the park.
II. If you may enter the gate, then you must have presented a blue pass.
III. If you may not enter the gate, then you did not present a blue pass.
a. I only
b. II only
c. III only
d. I, II and III

For question 4 and 5
Grace, Joie, Thiel and Nelia sit in this order in a row left to right. Grace changes places with Thiel and then Thiel changes places with Joie.

_____4. Who is at right end of the row?
a. Grace
b. Joie
c. Thiel
d. Nelia

_____5. Who is to the left of Thiel?
a. Grace
b. Joie
c. Nelia
d. can't be determined from the given information

Civil Service Reviewer Post 141/159
Analytical Ability Test - Page 142

_____6. Monday was wetter than Sunday, but sunnier than Saturday. Which day was the wettest?
a. Monday
b. Tuesday
c. Saturday
d. Sunday

_____7. If town A is north-west of town B, then which of the following is always true?
a. Town A is 2 km. north of town B
b. Town B is 2 km. west of town A
c. Town B is south-west of town A
d. Town B is south-east of town A

_____8. Today is a Wednesday. Which of the following is always true?
a. January begun on a Wednesday this year
b. Three days ago was Sunday
c. Four days from now will be Saturday
d. Six days ago was also a Wednesday

_____9. Which of the following contradicts the view that, ***only smart become rich?***
a. Girlie was smart, yet she was poor her whole life.
b. Leny Ngo is stupid, she amassed a large fortune by the age of 40.
c. Some smart people do not desire to become rich.
d. Both "smart" and "rich" are relative terms.

For question no. 10
Sabina: I just heard that Linda flunk out of collage.
Rosalie: That can't be true; she got straight A's in high school.

_____10. From the conversation above, it can be inferred that
a. Rosalie thinks that Sabina is lying.
b. Sabina knows that Linda flunked out of college
c. Rosalie thinks that Linda is still in college.
d. Rosalie assumes that no one who got straight A's in high school is likely to flunk out of collage.

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NUMBER SEQUENCE - Page 143

Find the next number in each of the following series.

1. 3 10 13 23 36 _____

2.	2	4	4	16	16	_____
3.	3	9	6	15	9	_____
4.	1/4	1/2	1	2	4	_____
5.	729	243	81	27	9	_____
6.	1	3	4	7	11	_____
7.	2	4	7	11	16	_____

8.	6	11	21	41	81	_____
9.	2	3	5	9	17	_____
10.	1	4	9	16	25	_____
11.	3	5	9	15	23	_____
12.	0	1	8	27	64	_____
13.	0	7	7	14	21	_____
14.	2	8	10	18	28	_____
15.	.1	.2	.4	.8	1.6	_____

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NUMBER SEQUENCE - Page 144

16.	1/3	2/3	1 1/3	2 2/3	5 1/3	_____
17.	30	40	60	70	90	_____
18.	1	3	6	10	15	_____
19.	2	3	5	9	17	_____
20.	2	5	10	17	26	_____
21.	2	4	6	8	10	_____
22.	2	3	5	7	11	_____

23.	1	1	2	4	8	_____
24.	8	1	8	2	8	_____
25.	3	1	4	5	9	_____
26.	1	3	2	5	3	_____
27.	1	2	4	8	16	_____
28.	1	6	15	20	15	_____
29.	1	8	27	64	125	_____
30.	2	6	12	20	30	_____

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CLERICAL OPERATIONS ALPHABETIZING - Page 145

Arrange the words in alphabetical order.

_____1.

A. Cruz, Edgardo R.
B. Cruz, Edmundo A.
C. Cruz, Edmund B.
D. Cruz, Eduardo A.
a. ACBD
b. ABCD
c. ABDC
d. BDCA

_____2.

A. Dionisio, Emelina C.
B. Dionisio, Elvira A.
C. Dionisio, Elena Z.
D. Dionisio, Emerlina B.
a. BCAD
b. ABCD
c. CBAD
d. ACBD

_____3.

A. Fil - Estate Golf Managers
B. Fil - Estate Golf's Dev. Inc.
C. Fil - Estate Finance Corp.
D. Fil - Estate Management Inc.
a. ABCD
b. BACD
c. CABD
d. ABDC

_____4.

A. Leon, Carlos de
B. Leon, Carlito de
C. Leon, Carlos E de
D. Leon, Carlo de
a. ABCD
b. BACD
c. ACDB
d. ABDC

_____5.

A. G & W Project Development Consultants
B. G & W Video World - Photo Coverage
C. GW Construction Supply
D. G & W Architects
a. DCBA
b. DCAB
c. CDAB
d. DBAC

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CLERICAL OPERATIONS ALPHABETIZING - Page 146

_____6.

A. MB Radiator Repair Shop
B. MB Power Industrial Corp.
C. MB Marketing Corp.
D. MB Group Inc.
a. CDAB
b. DCBA
c. ABCD
d. DCBA

_____7.

A. Pacific Glass Corp.
B. Pacific Holidays
C. Pacific Hardware Co. Inc.
D. Pacific Industrial Electric
a. CABD
b. ACBD
c. ABCD
d. DCBA

_____8.

A. Shell Gas Phils. Inc
B. Shell Distribution Co. Inc.
C. Shell Chemical Co. Inc.
D. Shell Maya Service Center
a. DABC
b. CABD
c. CBAD
d. CBDA

_____9.

A. Manila Bay Club Corp.
B. Manila Bay Toncion Inc.
C. Manila Bay Spining Mills
D. Manila Bay Hosiery Mills
a. ADCB
b. ADBC
c. ABCD
d. ACBD

_____10.

A. Santos, Leticia
B. Santos, Letty
C. Santos, Lita
D. Santos, Lolit
a. ABCD
b. CDAB
c. DCBA
d. ABDC

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CLERICAL OPERATIONS ALPHABETIZING - Page 147

_____11.

A. Marcelo, Felisa G.
B. Marcelo, Ezperanza L.
C. Marcelo, Eva A.
D. Marcelo, Elias C.
a. ADCB
b. ADBC
c. DACB
d. DBCA

_____12.

A. three - forty
B. three - fifty
C. three - hundred
D. three - eighty
a. BACD
b. CBAD
c. ABCD
d. DBAC

_____13.

A. Pres. Fidel V. Ramos
B. Chairman Nur Misuari
C. Senator Angara
D. Cong. Defensor
a. BADC
b. BDAC
c. DBCA
d. DCBA

_____14.

A. Dr. Andress Mendoza
B. Atty. John Mercado
C. Engr. Cesar B. Alferez
D. Prof. Merle J. Suobiron
a. CBAD
b. ACDB
c. BACD
d. BCAD

_____15.

A. horn - book

B. horn - pipe
C. honk
D. homesick
a. CDBA
b. DCAB
c. DABC
d. CDAB

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CLERICAL OPERATIONS ALPHABETIZING - Page 148

_____16.
A. natty
B. natural
C. nativity
D. native
a. DCAB
b. CDBA
c. DBAC
d. CABD

_____17.
A. discord
B. discontent
C. discern
D. discomfort
a. ABCD
b. CDBA
c. CABD
d. CDAB

_____18.
A. BULAN
B. BOCAUE
C. BUTUAN
D. BUSTOS
a. BADC
b. ADBC
c. ABCD
d. BCAD

_____19.
A. BANGUED
B. BANAUE
C. BASCO
D. BALIUAG
a. BCAD
b. CBAD
c. ABCD
d. DBAC

_____20.
A. BRUNEI
B. BAHRAIN
C. BELGIUM
D. BRISBANE
a. BCDA
b. CBAD
c. ABCD
d. BACD

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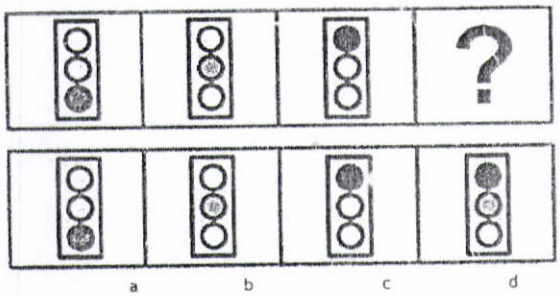
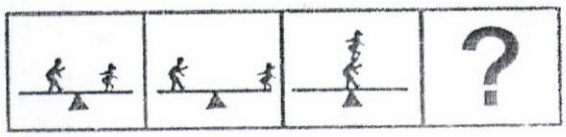
ABSTRACT REASONING - Page 149

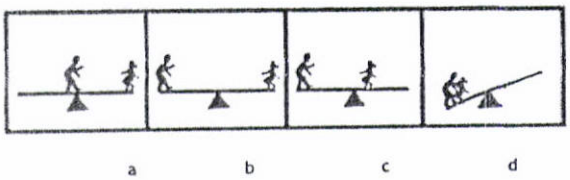
Direction : The three figures or symbols in each problem set are related to each other in a certain way. Select what should be the fourth figure or symbol. Write the appropriate letter in the blank.

_____1.

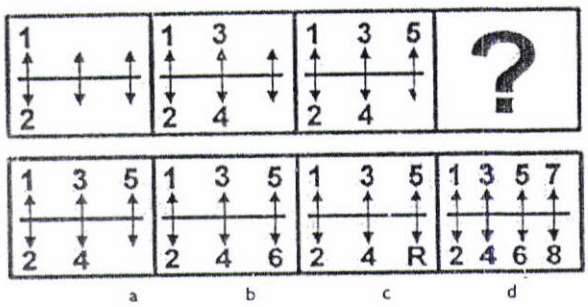


_____2.

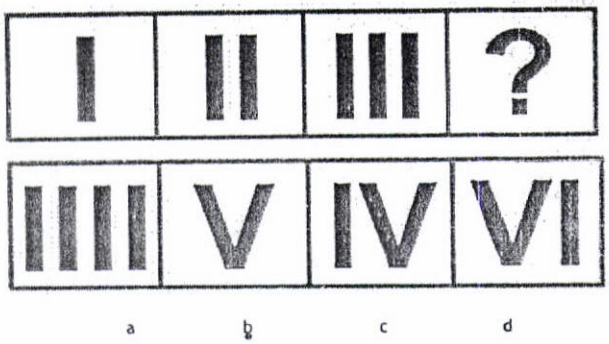




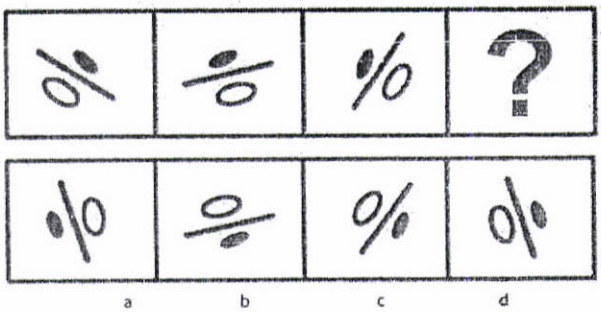
_____3.



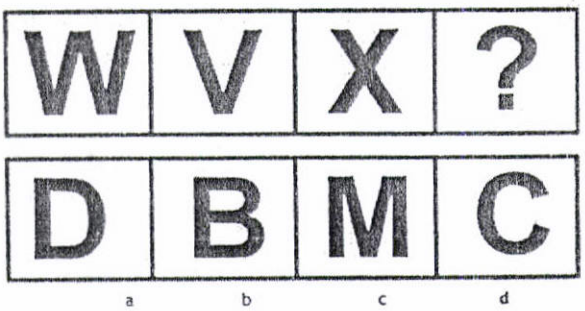
_____4.



_____5.



_____6.



_____7.

32	42	52	62

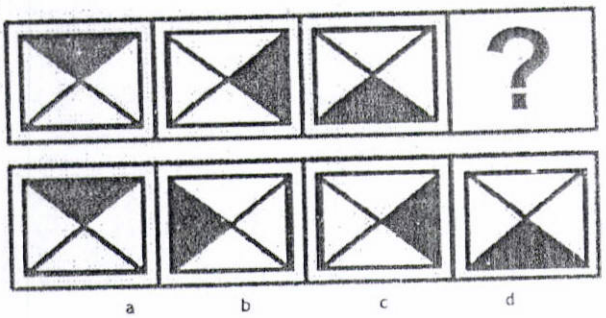
a b c d

_____8.

1	4	9	?
7	14	25	16

a b c d

_____9.



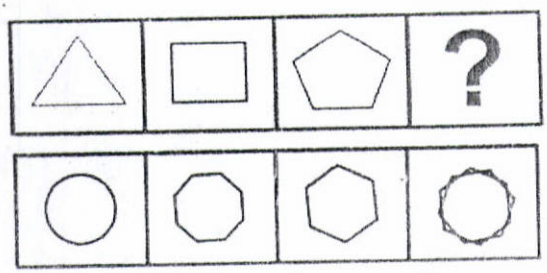
a b c d

_____10.

7 6 5 / 1 1	8 6 4 / 2 2	9 6 3 / 3 3	?
7 6 5 / 2 2	7 5 7 / 2 2	11 6 4 / 5 5	10 6 2 / 4 4

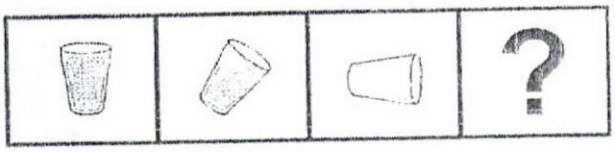
a b c d

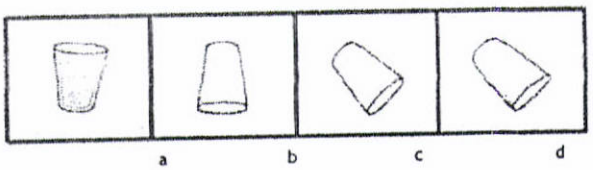
_____11.



a b c d

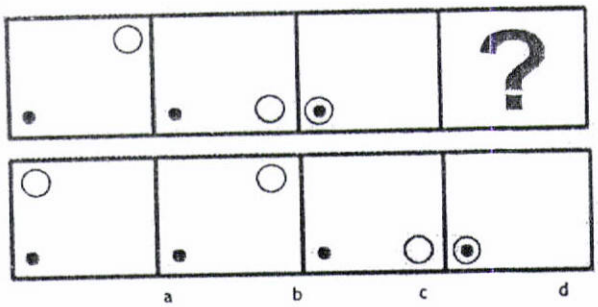
_____12.





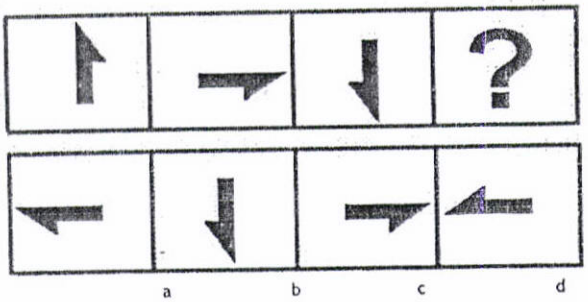
a b c d

_____13.



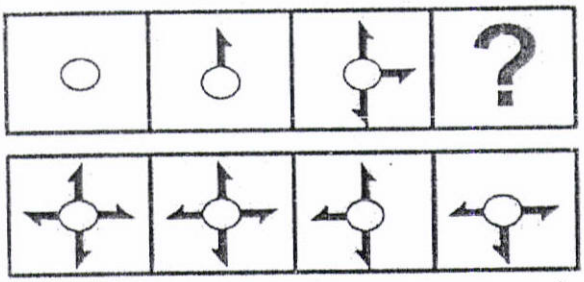
a b c d

_____14.



a b c d

_____15.



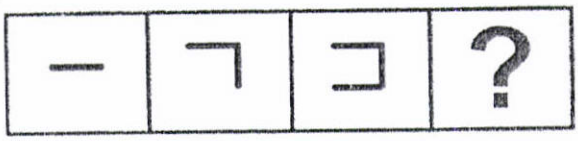
a b c d

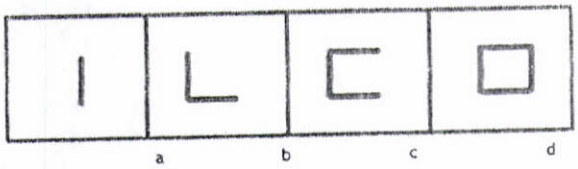
_____16.

0.5	3	8	?
14.5	15.5	16.5	17.5

a b c d

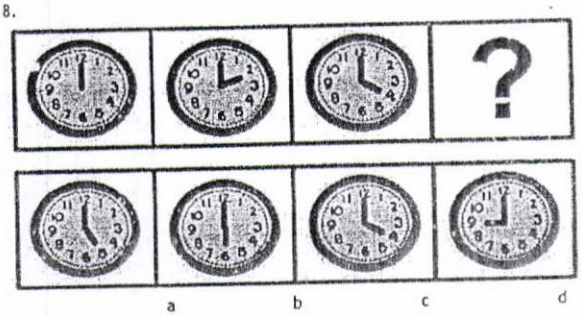
_____17.





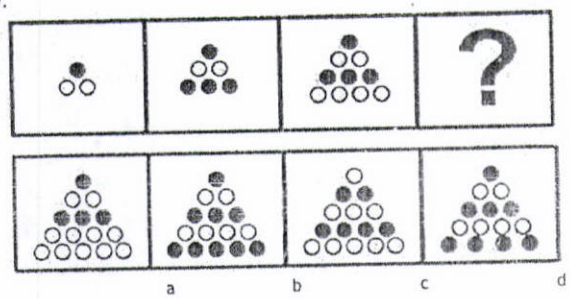
a b c d

_____18.



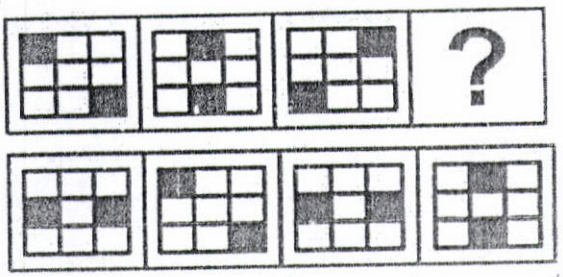
a b c d

_____19.



a b c d

_____20.



a b c d

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CURRENT EVENTS & GENERAL INFORMATION - Page 152

Select the best the best answer for each and write the appropriate letter in the blank.

____1. The only Filipino Silver Medalist winner in the 1996 Atlanta Olympics is ____.

a. Ramonito Velasco
b. Manuel Velasco Jr.
c. Mansueto Velasco Jr.
d. ONYOK

____2. The volcano that erupted in 1991 which caused vast damage in Central Luzon is ____.

a. Mt. Mayon
b. Kanlaon
c. Taal Volcano
d. Mt. Pinatubo

____3. The first woman president in the Philippines.

a. Amelita Ramos
b. Corazon C. Aquino
c. Imelda R. Marcos
d. Miriam D. Santiago

____4. Peace Pact between the Philippine Government and the Moro National Liberation Front was signed on _____.

a. September 1, 1996
b. September 2, 1996
c. September 3, 1996
d. September 4, 1996

____5. The chairman of the MNLF is _____.

a. Jose Maria Sison
b. Nur Misuari
c. Fr. Luis Jalandoni
d. Fr. Balweg

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CURRENT EVENTS & GENERAL INFORMATION - Page 152

6. In September 1996, Nur Misuari became the _____ of ARMM through an election.

a. Governor
b. Mayor
c. Congressman
d. Chairman

7. EVAT is an acronym for

a. Expanded Value Added Tax
b. Extended Value Added Tax
c. Exempted Value Added Tax
d. Evaluated Value Added Tax

8. The VAT was implemented by the BIR under the term of

a. Luis Sison
b. Imelda Marcos
c. Liwayway Vinson Chato
d. Corazon Aquino

9. Philippine national bird is

a. maya
b. parrot
c. eagle
d. lovebirds

10. SPCPD is an acronym for

a. Southern Philippines Coalition for Peace and Development
b. Southern Philippines Council for Peace and Development
c. Southern Philippines Committee for Peace and Development
d. Southern Philippines Christian Peace and Development

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CURRENT EVENTS & GENERAL INFORMATION - Page 153

11. C-5 was completed under the term of

a. President Corazon Aquino
b. President Ferdinand Marcos
c. President Fidel V. Ramos
d. President Diosdado Macapagal

12. One of the biggest achievements of President Corazon Aquino in her term of office was

a. infrastructure
b. aborting of *coup de tat*
c. the restoration of democracy
d. economic boom

13. APEC is the acronym for

a. Asia - Pacific Economic Council
b. Asia - Pacific Economic Corporation
c. Association of Philippine Economic Cooperation
d. Association of Philippine Economic Council

14. The host country in the 1996 APEC meeting.

a. Philippines
b. China
c. Singapore
d. Canada

15. The nun from Calcutta, who is regarded by many as the *Living Saint* for her devotion to the world's destitute is

a. Mother Cecilia
b. Mother Teresa
c. Mother Mary
d. Mother Ignacia

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16. The Iraqi President who ordered the attack of Kuwait.

a. Saddam Hussein
b. King Fahad
c. King Hussein
d. Minister Syed Hamid Albar

17. The centennial year for the Philippine independence will be celebrated in the year

a. 1996
b. 1997
c. 1998
d. 2000

18. EDSA Revolution happened on

a. February 22-25, 1986
b. February 22-25, 1985
c. February 22-25, 1987
d. February 22-25, 1988

19. The elected Russian president in 1996.

a. Lebed
b. Lenin
c. Gorbachev
d. Yeltsin

20. The groups of islands being claimed by China, Philippines, Vietnam, Brunei, Taiwan, Singapore and Malaysia is

a. Celebes Island
b. Babuyan Islands
c. Spratly Islands
d. Batanes Islands

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CSC Reviewer Answer Key 3

WASTONG GAMIT	TALAHULUGAN	CLERICAL ABILITY	ABSTRACT REASONING
1. B	1. A	1. A	1. A
2. A	2. A	2. C	2. D
3. A	3. A	3. C	3. C
4. A	4. A	4. B	4. C
5. A	5. A	5. B	5. A
6. A	6. B	6. B	6. C
7. B	7. A	7. B	7. D
8. B	8. A	8. C	8. C
9. A	9. A	9. A	9. B
10. B	10. A	10. A	10. D
11. A	11. B	11. D	11. C
12. B	12. A	12. D	12. C
13. A	13. B	13. B	13. A
14. A	14. B	14. C	14. D
15. A	15. B	15. B	15. B
16. B	16. B	16. A	16. 3
17. B	17. B	17. B	17. D
18. A	18. A	18. A	18. B
19. B	19. B	19. D	19. B
20. A	20. A	20. A	20. A

NUMBER SEQUENCE	CURRENT EVENTS & GENERAL INFORMATION	ANALYTICAL ABILITY
1. 59	1. C	1. B
2. 256	2. D	2. D
3. 21	3. B	3. C
4. 8	4. B	4. D
5. 3	5. B	5. B
6. 18	6. A	6. C
7. 22	7. A	7. D
8. 161	8. C	8. B
9. 33	9. C	9. B
10. 36	10. B	10. D
11. 33	11. C	11.
12. 125	12. C	12.
13. 35	13. B	13.
14. 46	14. A	14.
15. 3.2	15. B	15.
16. 10 2/3	16. A	16.
17. 100	17. C	17.
18. 21	18. A	18.
19. 33	19. D	19.
20. 37	20. C	20.
21. 12	21. B	21.
22. 13	22. A	22.
23. 16	23. B	23.
24. 3	24. C	24.
25. 14	25. C	25.
26. 7	26. B	26.
27. 32	27. C	27.
28. 6	28. A	28.
29. 216	29. D	29.
30. 42	30. B	30.

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21. The Philippine archipelago is composed of

a. 8000 islands
b. 7, 107 islands
c. 24, 000 islands
d. 5, 000 islands

22. The Philippines is composed of three main groups of islands, namely
a. Luzon - Visayas - Mindanao
b. Luzon - Batanes - Sulu
c. Mindanao - Batanes - Mindoro
d. Visayas - Mindanao - Pulilio

23. The provinces under ARMM are
a. Bukidnon - Tawi-tawi - Zamboanga - Misamis Oriental
b. Lanao del Sur - Maguindanao - Sulu - Tawi-tawi
c. Zamboanga del Sur - Lanao del Sur - Cotabato
d. Basilan - Sarangani - Sulu - Tawi-tawi

24. Our national hero is
a. Andres Bonifacio
b. Gen. Emilio Aguinaldo
c. Dr. Jose P. Rizal
d. Pres. Manuel L. Quezon

25. The Philippines proclaimed its independence on
a. July 4, 1946
b. June 19, 1946
c. June 12, 1896
d. July 1, 1950

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26. Jose Rizal was executed by firing squad on

a. December 25, 1896
b. December 30, 1896
c. November 30, 1900
d. January 1, 1900

27. Before the execution, Jose Rizal was imprisoned at
a. Fort Bonifacio
b. Fort del Pilar
c. Fort Santiago
d. Fort Magsaysay

28. On August 23, 1896, the Philippine revolution started at Pugad Lawin and was led by
a. Gen. Aguinaldo
b. Gen. Luna
c. Gen. Bonifacio
d. Joze Rizal

29. The Philippine flag was first made by
a. Bonifacio
b. Rizal
c. Aguinaldo
d. Agoncillo

30. The three stars in our flag represent
a. Visayas - Mindanao - Sulu
b. Luzon - Visayas - Mindanao
c. Palawan - Cavite - Bulacan
d. Mindoro - Palawan - Sulu

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CSC Reviewer Answer Key 1

Mathematics Test 1				
1. C	11. C	21. B	31. D	41. A
2. B	12. A	22. B	32. C	42. C
3. A	13. D	23. B	33. D	43. C
4. A	14. C	24. B	34. A	44. A
5. C	15. A	25. A	35. C	45. D
6. C	16. B	26. C	36. D	46. B
7. D	17. A	27. D	37. A	47. C
8. B	18. A	28. C	38. D	48. D
9. D	19. B	29. B	39. B	49. C
10. B	20. A	30. C	40. C	50. C

Mathematics Test 2				
1. B	11. C	21. D	31. D	41. D
2. B	12. D	22. B	32. D	42. A
3. C	13. A	23. B	33. C	43. D
4. D	14. B	24. C	34. A	44. A
5. B	15. A	25. B	35. D	45. B
6. D	16. A	26. C	36. B	46. D
7. A	17. B	27. D	37. B	47. C
8. A	18. B	28. D	38. C	48. D
9. A	19. B	29. D	39. B	49. C
10. D	20. B	30. C	40. C	50. A

Mathematics Test 3				
1. B	11. B	21. A	31. D	41. B
2. B	12. B	22. B	32. C	42. D
3. C	13. D	23. B	33. D	43. D
4. C	14. B	24. A	34. C	44. B
5. A	15. A	25. C	35. D	45. A
6. C	16. B	26. D	36. C	46. C
7. D	17. A	27. C	37. B	47. C
8. D	18. A	28. C	38. D	48. D
9. D	19. C	29. B	39. A	49. B
10. D	20. B	30. C	40. A	50. B

Mathematics Test 4				
1. C	11. A	21. A	31. C	41. B
2. C	12. D	22. A	32. C	42. C
3. B	13. C	23. D	33. B	43. B
4. D	14. A	24. B	34. B	44. B
5. A	15. B	25. D	35. C	45. B
6. A	16. C	26. A	36. C	46. A
7. D	17. A	27. B	37. C	47. A
8. C	18. D	28. D	38. A	48. C
9. B	19. B	29. B	39. A	49. C
10. D	20. C	30. B	40. A	50. D
				51. D
				52. D
				53. B
				54. A
				55. A

Mathematics Test 5				
1. A	11. C	21. B	31. B	41. D
2. A	12. A	22. C	32. C	42. A
3. B	13. A	23. B	33. B	43. C
4. D	14. B	24. D	34. C	44. A
5. C	15. B	25. B	35. C	45. B
6. C	16. A	26. B	36. B	46. D
7. D	17. C	27. A	37. B	47. D
8. B	18. B	28. C	38. D	48. D
9. B	19. C	29. D	39. D	49. B
10. B	20. D	30. D	40. C	50. B

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CSC Reviewer Answer Key 2

VERBAL REASONING		IDENTIFYING ERRORS		ANALOGY		READING COMPREHENSION	
1.	B	1.	B	1.	C	1.	A
2.	C	2.	A	2.	D	2.	D
3.	A	3.	C	3.	D	3.	D
4.	A	4.	D	4.	D	4.	C
5.	C	5.	E	5.	C	5.	C
6.	D	6.	C	6.	B	6.	A
7.	B	7.	B	7.	C	7.	E
8.	D	8.	A	8.	D	8.	C
9.	C	9.	D	9.	B	9.	A
10.	B	10.	D	10.	B	10.	B
11.	D	11.	A	11.	D	11.	D
12.	B	12.	A	12.	C	12.	B
13.	D	13.	A	13.	B	13.	
14.	C	14.	A	14.	C	14.	
15.	B	15.	C	15.	D	15.	

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

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