**Numerical Reasoning**

1. Solve: 1,4,9,16,25,36,49,64,\_\_\_\_?
2. 72
3. 75
4. 81
5. 90

Ans.(3) 81  
You can get this by squaring the numbers (1\*1=1), (2\*2=4), (3\*3=9) and so on....

1. A5 D2 G125 J625 M3125\_\_\_\_?
2. P15525
3. P15625
4. 015525
5. 015625

Ans. (2) P15625- the pattern is the next 2 letters from the alphabet and the number multiplied by 5 to next one

1. Solve:2187,729,243,81,27,9,\_\_\_\_\_?
2. 6
3. 3
4. 4
5. 2

Ans. (2) 3  
divide 2187 by 3 you'll get 729, then the next and so on

1. Solve :13 -21 34 -55 89\_\_\_\_?
2. -95
3. 104
4. -123
5. -144

Ans.-144  
Subtract  
13-34=-21  
-21-(-55)= 34  
34-89=-55  
-55-89=-144

1. Solve: AZ CX EV GT\_\_\_?
2. IR KP
3. IR KQ
4. IS KA
5. IS KP

Ans. (1) IR KP  
Use the equivalent ascending and descending letters in the alphabet

1. Solve : (-9)(-22)=\_\_\_?
2. 198
3. -198
4. 31
5. -31

Ans. (1) 198  
multiplying numbers with similar sign = Positive

1. Solve : what is 107-(-17)?
2. -90
3. 90
4. 124
5. -124

Ans.124  
-positive -negative numbers is to change the sign of the subtrahend and follow the rules in addition

1. What is the Greatest Common Factor of 36 and 54?
2. 6
3. 12
4. 18
5. 9

Ans. (3) GCF is 18 since 36 and 54 are divisible by 18,9,6,3

1. 3/9 \* 2/3=\_\_\_\_\_
2. 6/27
3. 2/9
4. 9/18
5. 1/9

Ans. (2) 6/27 simplified into 2/9

1. What is the sum of 1/2 + 8/4 + 6/12?
2. 15/12
3. 3/12
4. 3
5. 3 1/12

Ans. (3)   
the answer is 3 because 1/2 + 2 + 1/2=3

1. (21)(-4)+(8)(-2)=\_\_\_?
2. -100
3. 100
4. -23
5. 23
6. What is the Least Common Denominator of 1/8, 3/4, and 1/16?
7. 4
8. 8
9. 16
10. 2

Ans. (3) LCD is 16  
the denominators are : 8, 4 and 16

1. Convert 3.4% as a fraction.
2. 34/100
3. .34/100
4. 3.4/1000
5. 3.4/100

Ans. (4) 3.4/100  
because percent is n/100

1. What is the ratio of 1/2 to 2/5?
2. 3:5
3. 5:4
4. 1:3
5. 2:5
6. What is 1/4 in decimal?
7. .025
8. .25
9. 2.5
10. .0025

Ans. (2) .25  
because it's the same as 25/100

1. Find the value of X in the equation: 5× + 25=10
2. 5
3. 3
4. -3
5. -5

Ans. (3)  
×=-3 because 5 (-3) + 25 =10

1. 3/4 ÷ 1/8 =\_\_\_\_\_
2. 8
3. 4
4. 12
5. 6

Ans. (4)  
you will get 6 if you cross multiply the fractions

Division  
(a/b)/(c/d)=ad/bc  
Given 3/4 ÷ 1/8 =  
= (3)(8)/(4)(1)  
= 24/4  
= 6

1. The sum of two integers is 63. If one of the integers is three more than twice the other, what are the two integers?
2. 19 and 44
3. 42 and 21
4. 43 and 20
5. 17 and 46
6. 18 and 45

Ans. is C.  
  
Let x be one number and (3+2x) the other. x + 3 + 2x = 63, 3x = 60, x = 20, (3+2x) = 43

1. If x=8, Find the value of y in the equation: 4×- 2y = 28.
2. -4
3. -2
4. 4
5. 2

Ans. (4)   
y= 2   
4 (8)-2(2)=28

4(8)-2y=28  
32 -2y=28  
-2y=28-32  
-2y=-4  
-------  
-2 -2  
y=2

1. 2.12 is multiplied by 10 to the sixth power is?
2. 212.000
3. 2,120,000
4. 212,000
5. 21,200

Ans.(2) 2,120,000  
10 to the 6th power is in million

1. 25 is multiplied by 10 to the fifth power is?
2. 2,500,000
3. 250,000
4. 25,000
5. .000025

Ans. (1) 2,500,000  
25 × 100,000

1. Find the value of X if y=8 in the equation: 2× + 4 = 50
2. 9
3. 8
4. 10
5. 4

Ans. (1) ×=9  
2 (9) + 4 (8) = 50

1. What is the decimal Form of 3/4 %?
2. .0075
3. .007575
4. .75
5. .00075

Ans. (1).0075  
→because 3/4 is 75 percent or 75/100

1. Mr. Gil Bates owns 3/8 of Macrohard. After selling 1/3 of his share, how much of Macrohard does Mr. Gil Bates still own?
2. 5/16
3. 2/9
4. 7/16
5. 5/8
6. 1/4

If Mr. Bates is selling 1/3 of his shares he is keeping 2/3 of his shares.  
  
His remaining total is:  
(3/8)-(1/3)\*(3/8)  
Factor out a (3/8)  
= (1-1/3)\*(3/8)  
Simplify the subtraction  
= (2/3)\*(3/8)  
Multiplication fractions: cancel the 3 in the numerator of the 3/8 with the 3 in denominator of the 2/3  
= (2/3)\*(3/8) =2/8=1/4

1. Cathy scored 85, 87, 90, 95, and 100 in her Math exams. What will be her average grade in Math from this period?
2. 91.40
3. 91.50
4. 92
5. 93.50

Ans. (1) 91.40  
A=S/N  
S=85+87+90+95+100=457  
N=5  
  
A=457/5 =91.4

1. Letty left home and drove at the rate of 50 miles per hour for 2 hours. She stopped for lunch then drove for another 4 hours at 65 mph to reach Los Angeles. How many miles did Letty drive to reach LA?
2. 115 miles
3. 360 miles
4. 310 miles
5. 100 miles

Ans. (2) 360 miles  
  
d=rt  
d- distance  
r - rate  
t - time   
  
d=50 (2) + 4 (65)  
100 + 260  
= 360 miles

1. 6/8 +2 1/2 +4/12 is also the same as?
2. 1/2 + 2.5 + ¼
3. 1/2 + 5/2 + 1/6
4. 3/4 + 2.5 + 1/6
5. 3/4 + 5/2 +1/3

Ans. (4) 3/4 + 5/2 + 1/3  
simplify the fractions given and convert the mixed number into improper fraction

1. There are 36 reams of mimeographing paper in the drawer. If 1 1/4 dozens of reams of paper were to be used in printing, how many reams should be left in the drawer.
2. 15
3. 20
4. 21
5. 22

1 1/4 dozen x 12 = 15 reams to be used in printing  
36 reams - 15 reams = 21 reams left in the drawer

1. A square and a rectangle have equal areas. If the rectangle is 36 by 16, what is a side of a square?
2. 24
3. 26
4. 29
5. 34

Area of rectangle = length x width  
A = 36 x 16  
A = 576  
Area of square = (same as rectangle)  
A = square root of 576   
A = 24

1. Two numbers are in the ratio of 3 to 5. The lesser number is 42. Find the greater number.
2. 70
3. 75
4. 112
5. 126

The answer is 70 ..  
3:5=42:x  
3(x)=42(5)  
3x=210  
x=210/3  
x=70

1. The total area of a cube is the sum of its lateral area and the area of its basis. If the edge of a cube is 4, find its total area.
2. 96
3. 64
4. 48
5. 32

Ans.:96  
Total area= 4(lateral area) + 2(area of base)  
= 4(4x4) + 2(4x4)  
= 64+32  
=96  
  
The lateral area means the surface area of the cube without the area of the top and bottom square faces.

1. If a can of paint will cover approximately 60 square yards, what length of the wall can be painted if the wall is 8 feet high?
2. 12 feet
3. 10 feet
4. 6 feet
5. None of these

Correct Answer is: 4

1. A board 18 feet long is cut into two pieces. Two feet less than the product of five and the length of the shorter piece is equal to the difference between three times the length of the longer piece and eight.  
   What is the length of the shorter piece?
2. 6
3. 8
4. 9
5. 10
6. 12
7. James's dad is 5 times older than James and James is twice as old as his sister Sara. In two years, the sum of their ages will be 58. How old is James now?
8. 6 years old
9. 7 years old
10. 8 years old
11. 9 years old
12. A house and lot are sold for 14M. The house costs 1.5 times as much as the lot. How much does the lot costs?

1.5x+x=14  
2.5x=14  
(divide both side by 2.5)  
x=5.6 M

1. The difference between 8 times a number and 17 is 231. Find the number.

8X – 17 = 231  
8X = 231+17  
8X/8 = 248/8  
X = 31  
Since the value of X = 31  
So, 8 (31) = 248-17 = 231

1. How many 1cm square stickers are needed to cover a photo box 4cm lng, 3cm wide and 5cm high?
2. 47
3. 60
4. 88
5. 94

Surface Area= 2(lw+hw+hl)

1. A video caste movie, purchased for 440 was marked up 25% on the selling price. Later, as retail prices fell this movie was marked down 20% on the current sale price. Find its new sale price.
2. 352
3. 440
4. 500
5. 550

(440 \* 25% = 110) 440+110 = 550. (550 \*20% = 110) 550-110 = 440

1. How many meters of fencing are needed to enclose a 84m by 48m rectangular garden?
2. 132m
3. 244m
4. 264m
5. 4032 meter squared

Perimeter cya hindi area...so 4 side of rectangle.. 84+84+48+48=264  
Perimeter= 2l(lenght)+2w(width)  
(84m×2)+(48m×2)=264

1. A water container has 100ml of water in it and is 20% full. How many ml of water can this container hold if it is full?
2. 200ml
3. 400ml
4. 500ml
5. 800ml

Ans. C  
sol.  
100ml / 20% = 500ml

1. A 30cm long plastic pipe costs 249. At this rate, what is the price of the pipe per meter?
2. 830
3. 840
4. 747
5. 749

Ans. A  
249 / 30 \* 100 = 830

1. Paula uses ten 100-watt bulbs in her house. She uses these bulbs at an average of 5 hours each day. How many KWH do these bulbs use each day?
2. 5
3. 10
4. 50
5. 5 000

Ans. A. 5  
sol.  
1kwh = 1000watts  
= 10 x 100watts x 5hrs  
= 5000watts divide by 1kwh  
= 5kwh

1. An electric uses 12 200 watts per hour and is run an average of 60 hours a year. How many kilowatt-hour is this?
2. 73.2
3. 732
4. 7 320
5. 7.32

12,200x60/1000? = 732

1. What comes next? -729, 243, -81, 27, -9, 3, \_\_\_
2. -1
3. 2
4. -3
5. 4
6. -5
7. When the original price of an item is increased by a certain rate, the increased price is 3100. When the original price is decreased by the same rate, the decreased price is 1900. What is the original price of this item?
8. 1 200
9. 200
10. 2 500
11. 2 800

(3100+1900)/2=2500 orig.price

1. Michelle went to SM for the 3-day sale. She bought a new pair of shoes and paid only P2,450 discounted for 20% off. What was the original price of the shoes?
2. P3, 062.50
3. P3, 260.50
4. P3, 620.50
5. P3, 026.50

2540/0.80  
= 3062.50

1. How many containers each occupeis an area of 2 1/8 square meters can be stored in a 952 square meter warehouse?
2. 358
3. 448
4. 530
5. 630

925 / 2.125 = 448

1. Last month a store manager decided to decrease the prices of all items by 10%. This month he increased the prices by 10%. What would be the prices for a pair of pants that had costs P750 before prices were decreased last month?
2. P 742.50
3. P 750.00
4. P 675.00
5. P 825.00

742.5 (750-10%=last month price 675) 675+10%=before last month decreased

1. What comes next?  
   1/3, 5/6, 4/3, 11/6, 7/3, 17/6, \_\_\_\_
2. 10/3
3. 19/6
4. 11/3
5. 23/6
6. 13/3

1/3 = 2/6  
5/6 = 5/6  
4/3 = 8/6  
11/6 =11/6  
7/3 = 14/6  
17/6 = 17/6  
10/3= 20/6= 10/3--->ans.

1. A 1.25kg box of brand A detergent sells for 87.50. A 1.5kg box of brand B detergent sells for 103.20. What is the difference inthe price per kg?
2. 1.20
3. 1.50
4. 1.80
5. 2.00

(87.50/ 1.25 = 70) (103.20 / 1.5= 68.80) 70.00-68.80 = 1.20

1. Solve : what is -25+16?
2. 9
3. -9
4. -41
5. 41

positive + Negative numbers is to subtract them and follow the sign of the bigger number  
  
-25-16=9  
Follow the sign of bigger no.-9

1. (-560) ÷7=\_\_\_\_?
2. -80
3. 80
4. -553
5. 553

Ans. (1)-80  
dividing numbers with different signs = negative

1. Four times the perimeter of a parking lot is 16 less than 2000 meters. What is the perimeter of the lot?

Let x is your perimeter  
4x = 2000 - 16  
4x = 1984  
--- ------  
4 4  
x = 496  
ans is 496

1. Wyla got scores of 12, 20, 16, and 17 in her first four quizzes. What score must she get in the next quiz to have an average of 17 in the five quizzes?
2. 18
3. 20
4. 17
5. 19
6. None of the above

17×5=85-65=20