QUIZ1-

1) If the value of the fraction $\frac{p}{q}$ is an recurring decimal, then what type of decimal is obtained when q is divided by p?

•Recurring Decimal
•Non-Recurring Decimal
•**Can't say**

(2) Which of the following choices gives the decimal values of $\frac{3}{12}$, $\frac{5}{7}$, $\frac{27}{36}$.

•0.25, $\overline{0.714285}$, 0.75 **(Correct)**

- $\overline{0.25}$, $\overline{0.714285}$, $\overline{0.75}$
- $\overline{0.25}$, 0.714285 , 0.75

•0.25, 0.714285, 0.75

Explanation: Here the decimal value of the $\frac{3}{12}$ is obtained by dividing 3 by 12,

So we get $\frac{3}{12} = 0.25$

Similarly $\frac{5}{7} = 0.71428571428571...,$

Here we see that 7142875 repeats periodically. Hence the value of $\frac{5}{7} = \overline{0.714285}$

The value of $\frac{27}{36} = 0.75$

So the answer 0.25, $\overline{0.714285}$, 0.75 is correct answer .

(3) Which of the following is choice value is not equal to the value of $0.45+(\frac{0.6}{2})-(0.8\times0.5)$

- $\frac{7}{20}$
- $0.45+(\frac{0.06}{0.2})-0.8\times\frac{1}{2}$
- $0.45+(\frac{0.6}{3})-0.8\times0.5$ **Correct**
- $1-\frac{13}{20}$

Explanation: Here we need to find the value of $0.45+(\frac{0.6}{2})-(0.8\times0.5)$

The given data can be simplified as following

$$0.45+(\frac{0.06}{0.2})-(0.8\times0.5) = 0.45 + 0.3 - 0.40$$
$$= 0.75 - 0.40$$
$$= 0.35$$

Now convert this into faction 0.35 = 0.35 X 100/100 = 35 /100
Simplify this into irreducible fraction
Here GCD(35 , 100) = 5

$$\frac{35/5}{(100/5)} = \frac{7}{20}$$

So first choice is same.

We know $\frac{1}{2}=0.5$ and $\frac{0.06}{0.2}=\frac{6}{100}/\frac{2}{10}=\frac{6}{100}\times\frac{10}{2}=0.3$

and the value of $\frac{0.6}{3}=0.2$

Hence the value of the second choice will also be same.

The 3rd choice will be different because everything is but in place of 2 there is given 3. Hence the value of 3rd choice will be different.

For option 4
0.35 can be written as 1 – 0.65
1 – 0.65= 1 – 0.65 X 100/100
= 1 – 65/100
= 1 – 13/20
Hence the value of this choice will be same.

Thus the choice 3 is different

Quiz 2

(1) If N is the perfect square number, then the condition $\sqrt{N} > N^2$ holds.

•True
•False (Correct)
•Can't Say

Explanation:
We know that if -1< N < 0
Then $\sqrt{N} > N^2$
But here it is given that N is a perfect square number like 1 ,4, 9..etc. Hence the value of N will be greater than 1.
Hence if N > 1 then we know that,

$\sqrt{N} < N < N^2$

These value comes out of the range.

So the Condition is false.

(2) Let -1 < N < 0, compare the following columns.

Column A: N ² – N

Column B : N ² + N

(a) Column A is greater than B **(Correct)**

(b) Column B is greater than A

(c) Column A is equal to Column B

(d) Can't Compare.

Explanation: Let Solve this in easy way by finding the difference between the Column A and Column B

Column A – Column B = (N ² – N) - (N ²+N) = - 2N

Here the value of N (-1< N <0) is a negative number

→ Column A – Column B = a positive value .

→ Column A – Column B > 0

→ Column A > Column B

It means the Column A is greater than Column B.

(3) Let N = -10, Compare the following columns.

Column A: $\left| \{|N - 3| - |N + 2|\} \right|$

Column B: $|(N-3) - (N + 2)|$

(a) Column A is greater than B

(b) Column B is greater than A

(c) Column A is equal to Column B **(Correct)**

(d) Can't Compare.

Explanation:

Here N = - 10

Column A = $\left| \{|-10 - 3| - |-10 + 2|\} \right|$

$= \left| \{|-10 - 3| - |-10 + 2|\} \right|$

$= |\{|-13| - |- 8|\}|$

$= |\{13 - 8\}| = |5|$

$= 5$

Column B $= |(-10-3) - (-10+ 2)|$

$= |(-13) - (-8)|$

$= |-13 +8| = |-5|$

$= 5$

From above Column A is equal to Column B .

(4) **If $N^2 < N$, then what could be the possible value of $\sqrt{N}$.**

(a) 1
(b) 0.25 **(Correct)**
(c) -0.36
(d) 0

Explanation:

Given : $N^2 < N$
This means $0 < N$ as we know that $N^2 > 0$

If $0 < N^2 < N$ then definitely $0 < N < 1$.

Hence if $0 < N < 1$ then sqrt $N < 1$

So the possible value of the $\sqrt{N}$ in the given choices is 0.25.

QUIZ 3

(1) **What is 50% of 2500?**

(a) 125
(b) 12500
(c) 1250 **(Correct)**
(d) 12.5

Explanation: 50% of 2500 = $\frac{50}{100}$ X 2500

= 1250

So the answer is 1250.

(2) **What is the percentage of Jack score, if he scored 510 out of 750 ?**

(a) 51%
(b) 68% **(Correct)**
(c) 75%
(d) 40%

Explanation:

$$\text{The Percentage of Jack Score} = \frac{510}{750} \times 100$$
$$= 0.68 \times 100$$
$$= 68\%$$

So the Answer is 68%.

(3) Compare the following columns.
Column A : 49 % of 60
Column B: 60% of 49

(a) Column A is greater than B
(b) Column B is greater than A
(c) Column A is equal to Column B **(Correct)**
(d) Can't Compare.

Explanation:

$$\text{Column A : } 49\% \text{ of } 60 = \frac{49}{100} \times 60$$
$$= 29.4$$
$$\text{Column B : } 60\% \text{ of } 49 = \frac{60}{100} \times 49$$
$$= 29.4$$

So from above the Column A is equal to Column B .

(4) A worker use to get his wages in the daily bases. Suppose he could not come for the work for 5 days in the month of September. By what percentage his salary will get reduced if his salary per day is $25.

(a) 20%
(b) 25%
(c) 15%
(d) 17% **(Correct)**

Explanation:

The Worker salary per day = $ 25
The Number of days in month September = 30
Total Salary for September month = 30 X 25 = $750

The Worker is not coming 5 day so amount of salary reduced = 5 X 25 = $ 125

$$\text{The \% of Salary reduced is given by} = \frac{125}{750} \times 100 = 0.166 \times 100$$
$$= 16.6\%$$

So the nearest answer is 17%

(5) Sam's monthly salary is $1500 and John's salary is 75% of Sam's salary. Find by percentage Sam's income is more than John's.

(a) 25%
(b) 33% **(Correct)**
(c) 14%
(d) 75%

Explanation:

Given : Sam's monthly salary = $1500

John's salary = 75% of Sam's salary

So the John's salary = $\frac{75}{100}$ X 1500

= 75 X 15 = $ 1125

Here the 1500 – 1125 = $ 375 more than John's salary

In term of % it is = $\frac{375}{1125}$ X 100

= 33%

So the answer is 33%

QUIZ 4

(1) Find the value for the following:

a) What is the 25 % of 50?
b) What is one fifth of 25% of 75?

(a) 125 , 18.75
(b) 12.5 , 187.5
(c) 12.5 , 18.75 **(Correct)**
(d) 125 , 187.5

Explanation : (a) 25% of 50 = $\frac{25}{100}$ X 50

= 12.5

(b) $1/5^{th}$ of 25% of 75 = 1/5 x $\frac{25}{100}$ X 75

= 3.75

So the answer is 12.5 , 3 .75 is correct.

(2) Compare the following:

Column A: $\frac{1}{4}$ **of 760**

Column B : 25% of 760

(a) Column A is greater than B
(b) Column B is greater than A
(c) Column A is equal to Column B **(Correct)**
(d) Can't Compare.

Explanation:

Column A : $\frac{1}{4}$ of $760 = \frac{1}{4} \times 760$

$= 190$

Column B : 25% of $760 = \frac{25}{100} \times 760$

$= 190$

So from above the Column A is equal to Column B .

(3)

Compare the following:

Column A: $\frac{1}{8}$ **of 45% of 760**

Column B : 25% of 760

(a) Column A is greater than B
(b) Column B is greater than A **(Correct)**
(c) Column A is equal to Column B
(d) Can't Compare.

Explanation:

Column A: $\frac{1}{8}$ of 45% of $760 = \frac{1}{8} \times \frac{45}{100} \times 760$

$= 42.75$

Column B : 25% of $760 = \frac{25}{100} \times 760$

$= 190$

From above the Column B is greater than A

(4) Lorrie use to save 40 % of his salary every month. He invested two fifth of his savings to shares. If his investment amount for share is $200 per month, then what is the monthly salary of Lorrie.

(a) $ 500
(b) $ 300
(c) $ 1000
(d) $ 1250 **(Correct)**

Explanation :

Let consider that the monthly salary of Lorrie is S.
The Saving per month = 40% of S
It is given that Lorrie invested 2/5 of Saving to share.

So the Investment amount for share = $\frac{2}{5}$ of 40 % of S

$$= \frac{2}{5} \text{ X } \frac{40}{100} \text{ X S}$$

Here it is given that Investment amount for share = $ 200

So, $\frac{2}{5}$ X $\frac{40}{100}$ X S = 200

$$S = 200 \text{ X } \frac{500}{80} = \$ 1250$$

So the Monthly salary of Lorrie is $ 1250 .

So the Answer is $ 1250 .

Solved Question:

(1) Compare the following (Consider 1< p < q)
Column A: |q - p|
Column B: | q - 2p|

Solution:

We can compare the column by putting the value .
For example if p = 5 and q = 6 then,
Column A : |q – p| = | 6 – 5| = 1
Column B : |q – 2p| = |6 – 10| = 4
Here Column A < Column B

Take another assume values like q = 7 , p = 2
Column A : |q – p| = |7 – 2| = 5
Column B : |q – 2p| = | 7 – 4| = 3

Here Column A > Column B

So we can conclude that we can't find which column is greater .

(2) Suppose p&q are integer such that 5< p < 8 and -6> q > -10

Column A: min | p - q|
Column B: |max(q - p)|

Solution:

Given: 5<p<8 , -6>q > -10
So p = { 6,7,8} and q = { -9,-8,-7}
Here the possible value of the | p – q| = { 15,14,13,16,17} when we will take the different combination of the p , and q .
So the Column A : min | p – q| = 13.

Similarly (q – p) = { -15,-16,-17,-14,-13}
So the max(q – p) = -13
So the Column B : | max (q – p) | = 13

From the above Column A is equal to Column B .

(3) Mary gets a pocket money of $10 per week by her father. Out of which she saves some amount per week. After 5 weeks, she saved $35. Find the percentage of the amount of money she has saved in these 5 weeks.

Solution:

Given : Mary gets pocket money = $ 10 per week
Money saved by Mary in after 5 week = $ 35

The total money received by the Mary After 5 weeks = 10 X 5 = $ 50

So the % of amount saved by Mary = $\frac{35}{50}$ X 100 = 70 %

So the answer is 70%.

(4) Maria says that her salary is 200% of her brother's salary. Suppose Maria's brother got a promotion and his salary is increased by 45%. Compare the given columns

Column A : Brother's salary after promotion
Column B : $\frac{2}{3}$ rd of Maria's salary.

Solution:

Lets consider the Maria's Brother salary is P
So the Maria salary is given by = 200% of P
= 2 P
Maria' Brother salary after promotion
= P + 45% of P
= P(1 + $\frac{45}{100}$)

$= 1.45\ P$

So column A: 1. 45 P

Column B: $\frac{2}{3}$ of Maria's salary

$= \frac{2}{3}$ of $2P$

$= \frac{4P}{3} = 1.33\ P$

So Column B = 1.33 P

From the above Column A is greater than Column B .

(5) In certain lab, 20ml of acid solution with 25% of concentration is mixed with 15ml of acid solution with 50% concentration. Find the percentage of the concentration of acid in the new solution.

Solution:

The amount of acid in 20 ml acid solution = 25% of 20 $= \frac{25}{100}$ X 20

$= 5$ ml

The amount of the Acid in 15 ml solution = 50% of 15 $= \frac{50}{100}$ X 15

$= 7.5$ ml

Total amount of acid in the new solution = 5 + 7.5 = 12. 5ml

Total amount of new solution = 20 + 15 = 35 ml

So the % of concentration of acid = $\frac{12.5}{35}$ X 100 = 35.7%

So the answer is 35.7%

Review Test.

(1) Suppose – 1< p < 1

Column A: $1/p^2 - 1$

Column B: 0

(a) Column A is greater than B **(Correct)**

(b) Column B is greater than A

(c) Column A is equal to Column B

(d) Can't Compare.

Solution:

Given: -1< p<1

then 1/p value will be always -1>p>1

So the $\frac{1}{p^2}$ value always p>1

so the

Column A: $\frac{1}{p^2}-1$ = a positive quantity .

Column B: 0

for **example**: suppose p = 0.5 which denotes $-1 < 0.5 < 1$

$1/0.5 = 2$ which denotes $-1 > 2 > 1$

$\frac{1}{0.5^2}$ = 4 which is grater than 1

Column A : $\frac{1}{p^2}-1$ = 4 -1 = 3

Column B : 0

So the Column A is greater than Column B .

(2) Let $N^2=\sqrt{0.016/0.00001}$ **. What is the value of** $\sqrt{N}$

(a) 2
(b) 40
(c) 6.32 **(Correct)**
(d) **0.02**

Solution:

Given : $N^2=\sqrt{0.016/0.00001}$ ---------(1)

Here

$$\frac{0.016}{0.00001} = \frac{(0.016\ X\ 100000)}{(0.00001\ X\ 100000)} = \frac{1600}{1} = 1600$$

So (1) can be written as

$$N^2=\sqrt{1600}\ ,$$

$$\Rightarrow \quad N^2=\sqrt{40\ X\ 40}$$

So N = 40

$$\sqrt{N} = \sqrt{40} = 6.32$$

So the answer is $\sqrt{N}$ **= 6.32**

(3) Tom has invested certain amount in the share. After certain month he received half of the amount more than his investment amount. Once again he has invested the extra amount in the share, but this time he received 30% less than his investment. Find the percentage of the extra amount he had after his second investment.

(a) 50%
(b) 30%
(c) 3.3%
(d) 5% **(Correct)**

Solution :

Lets Consider that Tom invested P amount in the share.

After certain month

The amount received by Tom = Half more than his investment

$$= \frac{P}{2} + P = 1.5\ P$$

The extra amount = 1.5 P – P = 0.5 P

Given that Tom invested extra amount in share So the total amount of the investment = 1.5 P

In the second time the amount received by Tom = 30% less than his investment

= 1.5 P - 30 % of 1.5 P

=1.5 P – 0.45 P

= 1.05 P

So the Extra amount = 1.05 P – P = 0.05 P

So % of Extra amount = $\frac{0.05P}{P}$ X 100 = 5%

(4) **Shelley needs to complete some work. For that she decided that she will spend half an hour daily for 8 days and she will finish 2/3 rd the work . But instead of half an hour she spends 45min daily for 8 days. Find by what percentage the amount of work completed exceeds the amount of work that was expected to be done.**

(a) 66.6%
(b) 50% **(Correct)**
(c) 45%
(d) 100%

Solution:

If she worked half an hour than the total hour of working = ½ X 8 = 4 hour

In 4 hour she have finished 2/3 of work.

So she can finished whole work in 4 X 3/2 = 6 hour.

If she work 45 min daily then in 8 day

total hour she worked in 8 days = 6 hour

Here we know that she can finish whole work in 6 hour.

So there is no any amount of work is left because she worked 6 hour in 8 days.

Expected amount of work will be $\frac{2}{3} \times W$

Work completed is W.

Percentage of more work = $\frac{W - 2W/3}{2W/3} \times 100 = 50\%$

Hence Shelley has finished 50% more work than the expected.

(5) Julie makes a sugar syrup of 1 litre mixing sugar and water. Concentration of the syrup was 40%. When Julie tastes the syrup she finds the syrup is very sweet. Hence she adds 250 ml of water more to the syrup. Now find the concentration of new syrup solution.

(a) 40%
(b) 10%
(c) 32% **(Correct)**
(d) 25%

Solution :

Given : Concentration of the Syrup 40 %
amount of syrup = 1 litre
The amount of the Sugar in the Syrup = 40% X 1 = 0.40 litre
She add 250 ml water in syrup .So now the amount of the syrup = 1.25 liter

The concentration of the new syrup = $\frac{0.40}{1.25}$ X 100 = 32 %

So the Answer is 32%

(6) There are three jugs. The volumes of Jug A, Jug B and Jug C are 250ml, 500 ml and 1 litre receptively. ¾ th of Jug A is filled with water and 2/5 th of Jug B is with water. Now the water from the Jug A and Jug B is poured in Jug C. Find the additional amount of water need to be poured in JUG C so that 6/10th of Jug C should be filled.

(a) 387.5 ml
(b) 600 ml
(c) **212.5 ml** **(Correct)**
(d) 750 ml

Solution:

The amount of water in Jug in A = ¾ of 250 ml = 187.5 ml
The amount of water in Jug B = 2/5 of 500ml = 200 ml

When the water of Jug A and Jug B is poured in Jug C then ,
the amount of water in Jug C is = 187.5 + 200 = 387.5 ml

Now, 6/10 th of the Jug C = 1000 X 6 /10 = 600ml

Additional amount of water need to poured in Jug C = 600 – 387.5 = 212.5 ml

Hence, the answer is 212.5 ml.

(7) Anna wants to buy a gift for her friend. Anna purchases a dress worth $120 and a hat worth $60. The dress had 30% discount and the hat had 15% discount. If Anna makes the payment by cash then she needs to pay 5% less than the bill amount. How much does Anna pays if she makes a payment by cash.

(a) $135
(b) $128.25 **(Correct)**
(c) $180
(d) $141.75

Solution:

The actual price of dress = $120 – discount
= $120 – 30% of $120
= $120 - $36 = $84
And the actual price of the hat = $60 – 15% of $60
= $51
So bill amount = 84 + 51 = $135

if payment by cash than she get 5% less than the bill amount .

So the amount pays by Anna = 135 – 5 % of 135
= 135 – 6.75
= $ 128.25

So the answer is $ 128.25