Quiz1:

(1) Is $-\{\frac{-(2-6)+3}{4-7}\}$ **a positive fraction ?**

i) True .....Correct
ii) False
iii) Can't say.

Explanation:
The given fraction is $-\{\frac{-(2-6)+3}{4-7}\}$

Numerator = - (2 – 6) + 3
= - (- 4) + 3
= 4 + 3
= 7

Denominator = 4 – 7 = - 3

Now the fraction can be written as $-\frac{7}{-3} = \frac{7}{3}$

So the fraction is a positive fraction .

Hence, choice 1 is correct.

(2) Suppose p is a prime number and q is the positive integer multiple of p such that q > p, what type of fraction will be $\frac{p}{q}$ **?**

i) Proper Fraction ----------Correct
ii) Improper Fraction
iii) Any one of these.

Explanation:
Given:
•p is prime number
•q is positive integer multiple of p

Since q is the positive multiple of p, q can be written as:
q = n X p .....(1)
where N is positive integer (1,2,3,4,5...)

From (1) we can get $n=\frac{q}{p}$

or, $\frac{p}{q}=\frac{1}{n}$

So the the value of the $\frac{p}{q}$ can be $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, ...$

Here values of the denominator is greater than numerator
So the fraction is a proper fraction.

3) If p is a non-zero integer then what type to fraction $\frac{p+3}{p}$ will be?

i) Proper Fraction
ii) Improper Fraction
iii) Any one of these. ....Correct

Explanation:
It is given that p is non zero integer .
$\rightarrow p \neq 0$.
This means, p may be either positive negative or the negative integer.

We need to find what type of fraction is $\frac{p+3}{p}$.
Let us put different value of p and see what happens to the given fraction.

•If p = -10 then,

$$\frac{(p+3)}{p} = \frac{(-10+3)}{-10}$$

$$= \frac{-7}{-10} = \frac{7}{10}$$

Here the numeric value of the denominator is greater than the numeric value of the numerator .
So $\frac{(p+3)}{p}$ is a proper fraction .

•If p = 10 then,

$$\frac{(p+3)}{p} = \frac{(10+3)}{10} = \frac{13}{10}$$

Here the denominator is less than numerator
So $\frac{(p+3)}{p}$ is an improper fraction.

Hence the fraction can be either proper or improper. It will depend on the value of p.

Quiz 2:

(1) Which of the following improper fractions can be obtained from $7\frac{3}{4}, 33\frac{1}{3}$ **?**

- $\frac{28}{4}$, $\frac{99}{3}$
- $\frac{21}{4}$, $\frac{33}{4}$
- $\frac{31}{4}$, $\frac{100}{3}$ .....Correct

Explanation:

The mixed fractions are $7\frac{3}{4}$ and $33\frac{1}{3}$.

·Now consider the fraction $7\frac{3}{4}$,

$$7\frac{3}{4} = \frac{7}{1} + \frac{3}{4} = \frac{7X4}{1X4} + \frac{3}{4}$$

$$= \frac{28}{4} + \frac{3}{4}$$

$$= \frac{28+3}{4} = \frac{31}{4}$$

·And consider the fraction $33\frac{1}{3}$,

$$33\frac{1}{3} = \frac{33}{1} + \frac{1}{3} = \frac{33X3}{1X3} + \frac{1}{3}$$

$$= \frac{99}{3} + \frac{1}{3}$$

$$= \frac{99+1}{3} = \frac{100}{3}$$

So the improper fraction of $7\frac{3}{4}, 33\frac{1}{3}$ **are** $\frac{31}{4}, \frac{100}{3}$ **respectively.**

(2) Which of the following mixed fraction can be obtained from $\frac{11}{3}$, $\frac{15}{4}$

- $3\frac{2}{3}$, $3\frac{3}{4}$ ------Correct
- $11\frac{1}{3}$, $15\frac{1}{4}$
- $2\frac{5}{3}$, $2\frac{7}{4}$

Here, Option (I) and (III) are correct

Explanation:

The given improper fractions are $\frac{11}{3}$ and $\frac{15}{4}$

·Now consider the fraction $\frac{11}{3}$.

When divide 11 by 3, the quotient is 3 and the remainder is 2.

Hence, $\frac{11}{3} = \frac{(3\times3)+2}{3} = \frac{9+2}{3} = \frac{9}{3} + \frac{2}{3} = 3 + \frac{2}{3} = 3\frac{2}{3}$

·Now consider the fraction $\frac{15}{4}$

When divide 15 by 4, the quotient is 3 and the remainder is 3.

Hence, $\frac{15}{4} = \frac{(4\times3)+3}{4} = \frac{(4\times3)+3}{4} = \frac{12}{4} + \frac{3}{4} = 3 + \frac{3}{4} = 3\frac{3}{4}$

So the mixed fraction of the $\frac{11}{3}$, $\frac{15}{4}$ are $3\frac{2}{3}$, $3\frac{3}{4}$ respectively

(3) Is the improper fraction which is obtained by an mixed fraction, always an irreducible fraction?

- True
- False
- Can't say. .....Correct

Explanation:

The improper fraction which is obtained by an mixed fraction is irreducible fraction or not . It will depend upon the proper fraction of the mixed fraction .

If proper fraction $\frac{p}{q}$ of a mixed fraction is an irreducible fraction then,
the improper fraction obtain by mixed fraction will be a irreducible fraction , otherwise not.

Let us check this with some examples

•Consider the Mixed fraction $5\frac{2}{4}$

Here $\frac{2}{4}$ is not an irreducible fraction as GCD(2, 4) $\neq 1$

Convert mixed fraction into improper fraction

$$5+\frac{2}{4} = \frac{5}{1}+\frac{2}{4} = \frac{5X4}{1X4}+\frac{2}{4} = \frac{20}{4}+\frac{2}{4} = \frac{20+2}{4} = \frac{22}{4}$$

The fraction $\frac{22}{4}$ is **not the irreducible fraction** as it can be reduced to $\frac{11}{2}$

•Consider the Mixed fraction $5\frac{1}{2}$

Here $\frac{1}{2}$ is an irreducible fraction as GCD(1, 2) = 1

Convert mixed fraction into improper fraction

$$5\frac{1}{2} = \frac{5}{1}+\frac{1}{2} = \frac{5\times 2}{1\times 2}+\frac{1}{2} = \frac{10}{2}+\frac{1}{2} = \frac{10+1}{2} = \frac{11}{2}$$

Here $\frac{11}{2}$ is **an irreducible fraction**.

So we can't say that the improper fraction which is obtained by an mixed fraction is always irreducible fraction.

(4) Find the equivalent irreducible fraction for $\frac{52}{60}$ **.**

- $\frac{26}{30}$
- $\frac{13}{30}$
- $\frac{26}{15}$
- $\frac{13}{15}$ .....Correct

Explanation:

Consider the given fraction $\frac{52}{60}$,

GCD(52,60) = 4

Divide the numerator and denominator by 4

$\frac{(52/4)}{(60/4)} = \frac{13}{15}$

Now here GCD(13,15) = 1

So the $\frac{13}{15}$ is an irreducible fraction

Note that any fraction is always equivalent to its irreducible fraction.

Hence $\frac{13}{15}$ is irreducible and equivalent fraction of $\frac{52}{60}$

(5) Which of the following are the equivalent fraction?

- $\frac{3}{4}$, $\frac{9}{16}$
- $\frac{4}{5}$, $\frac{6}{7}$
- $\frac{7}{8}$, $\frac{-14}{16}$
- $\frac{6}{9}$, $\frac{4}{6}$ .....Correct

Explanation:

<u>We can find 'whether the given fractions are equivalent or not' , in two ways.</u>

i) Check whether the irreducible fractions of the given fractions are same.

<u>Or</u>

ii) Check whether the values of both the fractions are same.

Now, let us check the choices one by one.

(1) $\frac{3}{4}$, $\frac{9}{16}$

Here $\frac{3}{4}$ and $\frac{9}{16}$ are the different irreducible fractions. Hence the given fractions are not equivalent.

(2) $\frac{4}{5}$, $\frac{6}{7}$

Once again $\frac{4}{5}$ and $\frac{6}{7}$ are the different irreducible fractions. Hence the given fractions are not equivalent.

(3) $\frac{7}{8}$, $\frac{-14}{16}$

$\frac{7}{8}$ is a irreducible fraction.

The irreducible fraction of $\frac{-14}{16}$ is $\frac{-7}{8}$

We observe that even though the numeric values of the irreducible fractions are same, the irreducible fractions are have different sign.

Hence $\frac{7}{8}$ and $\frac{-14}{16}$ are not equivalent fraction

(4) $\frac{6}{9}$, $\frac{4}{6}$

Here the irreducible fraction of $\frac{6}{9}$ is $\frac{2}{3}$

The irreducible fraction of $\frac{4}{6}$ is $\frac{2}{3}$

Hence $\frac{6}{9}$ and $\frac{4}{6}$ are equivalent fraction.

Quiz 3:

Which of the following fractions are equivalent to the givens fraction such that the denominators of the new fractions are same.

(1) $\frac{7}{9}$, $\frac{2}{6}$

i. $\frac{14}{18}$, $\frac{6}{18}$ **-------Correct**

ii. $\frac{7}{18}$, $\frac{6}{18}$

iii. $\frac{14}{18}$, $\frac{21}{18}$

Solution: $\frac{7}{9}$, $\frac{2}{6}$

Here the LCM(9,6)= 18

Now $\frac{7}{9} = \frac{7X2}{9X2} = \frac{14}{18}$

and, $\frac{2}{6} = \frac{2X3}{6X3} = \frac{6}{18}$

Hence the required fractions are $\frac{14}{18}$ **and** $\frac{6}{18}$

(2) $\frac{-4}{8}$, $1\frac{2}{3}$

i. $1\frac{16}{24}$, $\frac{-12}{24}$

ii. $\frac{-4}{8}$, $1\frac{2}{8}$

iii. $\frac{-12}{24}$, $1\frac{16}{24}$ -----Correct

Explanation:

$\frac{-4}{8}$, $1\frac{2}{3}$

we can write the above fraction as $\frac{-4}{8}$, $\frac{5}{3}$

Here the LCM(8,3) = 24

Now $\frac{-4}{8} = \frac{-4X3}{8X3} = \frac{-12}{24}$ and $\frac{5}{3} = \frac{5X8}{3X8} = \frac{40}{24} = \frac{24+16}{24} = \frac{24}{24}+\frac{16}{24}$

$= 1 + \frac{16}{24} = 1\frac{16}{24}$

Hence the required fractions are $\frac{-12}{24}$ **and** $1\frac{16}{24}$

(3) $\frac{7}{8}$, $4\frac{1}{3}$

i. $\frac{21}{24}$, $\frac{13}{3}$

ii. $4\frac{8}{24}$, $\frac{13}{24}$

iii. $\frac{21}{24}$, $4\frac{8}{24}$ -----correct

iv. $\frac{21}{24}$, $\frac{13}{24}$

Solution: $\frac{7}{8}$, $4\frac{1}{3}$

we can write as $\frac{7}{8}$, $\frac{13}{3}$

Here the LCM (8 , 3) = 24

Now $\frac{7}{8} = \frac{7X3}{8X3} = \frac{21}{24}$ and $\frac{13}{3} = \frac{13X8}{3X8} = \frac{104}{24} = \frac{96+8}{24} = \frac{96}{24}+\frac{8}{24}$

$= 4 + \frac{8}{24} = 4\frac{8}{24}$

Hence the required fractions are $\frac{21}{24}$ **and** $4\frac{8}{24}$

(4) 1 , $\frac{1}{2}$, $\frac{1}{3}$

i. 1, $\frac{3}{6}$, $\frac{2}{6}$

ii. $\frac{6}{6}$, $\frac{3}{6}$, $\frac{2}{6}$ ----------Correct

iii. $\frac{2}{6}$, $\frac{3}{6}$, $\frac{6}{6}$

Explanation:

We can write the above fraction as $\frac{1}{1}$, $\frac{1}{2}$, $\frac{1}{3}$

Here the LCM(1,2,3) = 6

Now $\frac{1}{1} = \frac{1X6}{1X6} = \frac{6}{6}$

$\frac{1}{2} = \frac{1X3}{2X3} = \frac{3}{6}$

and $\frac{1}{3} = \frac{1X2}{3X2} = \frac{2}{6}$

Hence the required fractions are $\frac{6}{6}$, $\frac{3}{6}$ and $\frac{2}{6}$

Solve the following and find the fraction.

(1) $2 + \frac{4}{3}$

Explanation:

2 can be written as $\frac{2}{1}$

Here the LCM (1,3) = 3

$\frac{2}{1} = \frac{2X3}{1X3} = \frac{6}{3}$

Now $2 + \frac{4}{3} = \frac{6}{3} + \frac{4}{3} = \frac{6+4}{3} = \frac{10}{3}$

(2) $\frac{3}{4} - \frac{1}{2}$

Explanation:

LCM (4 ,2) = 4

$\frac{3}{4} - \frac{1}{2} = \frac{3}{4} - \frac{1X2}{2X2} = \frac{3}{4} - \frac{2}{4} = \frac{3}{4} - \frac{1}{2} = \frac{3-2}{4} = \frac{1}{4}$

(3) $\frac{-8}{11} - \frac{3}{11}$

Explanation:

Here we see that both the denominators are same . Hence we can directly add the fractions.

$\frac{-8}{11} - \frac{3}{11} = \frac{-8-3}{11} = \frac{-8-3}{11} = \frac{-11}{11} = -1$

(4) $\frac{11}{-5} + 2\frac{1}{10}$

Explanation:

$\frac{11}{-5} + 2\frac{1}{10} = 2\frac{1}{10} + \frac{11}{-5} = \frac{21}{10} - \frac{11}{5}$

here the LCM(10 ,5) = 10

$$\frac{21}{10}-\frac{11X2}{5X2} = \frac{21}{10}-\frac{22}{10} = \frac{21-22}{10} = \frac{-1}{10}$$

(5) $9\frac{1}{7}-2\frac{1}{7}$

Explanation:

$$9\frac{1}{7}-2\frac{1}{7} = \frac{64}{7}-\frac{15}{7} = \frac{64-15}{7} = \frac{49}{7} = 7$$

Which of the columns are greater?

(1) Column A: $\frac{4}{8}+\frac{2}{8}$

Column B: $\frac{3}{4}$

i. Column A is greater than the Column B .
ii. Column B is greater than the Column A.
iii. Column A is equal to the Column B . ....Correct

Explanation:

(1) Column A: $\frac{4}{8}+\frac{2}{8} = \frac{4+2}{8} = \frac{6}{8}$

Column B: $\frac{3}{4}$

In the Column B multiply by 2 in the numerator and denominator so Column B: $\frac{3X2}{4X2} = \frac{6}{8}$

So the Column A and Column B both are equal .

(2) Column A: $\frac{9}{5}-\frac{7}{4}$

Column B : $-\{2\frac{1}{2}\}$

i. Column A is greater than the Column B .....Correct
ii. Column B is greater than the Column A.
iii. Column A is equal to the Column B .

Explanation:

Column A: $\frac{9}{5}-\frac{7}{4}$

Here the LCM (5 ,4) = 20

so $\frac{9X4}{5X4}-\frac{7X5}{4X5} = \frac{36}{20}-\frac{35}{20} = \frac{36-35}{20} = \frac{1}{20}$

Column B : $-\{2\frac{1}{2}\} = \frac{-5}{2}$

we have to compare $\frac{1}{20}$ and $\frac{-5}{2}$

The LCM (20 ,2) = 20

$\frac{-5X10}{2X10} = \frac{-50}{20}$

So Column A = $\frac{1}{20}$ and Column B: $\frac{-50}{20}$

here the Column A is greater than Column B

(3) **Column A:** $\frac{7}{4}-\frac{3}{4}-1$

Column B: - 1

i. Column A is greater than the Column B .....Correct
ii. Column B is greater than the Column A.
iii. Column A is equal to the Column B .

Explanation:

Column A: $\frac{7}{4}-\frac{3}{4}-1$

$= \frac{7-3}{4}-1 = \frac{4}{4}-1 = 1-1=0$

Column B: -1

Here Column A is greater than Column B

Quiz 4:

(1)_____ is the inverse of $\frac{1}{1/5}$

i. 5
ii. $\frac{1}{5}$ ------Correct

Explanation:

The inverse of $\frac{1}{1/5}$ is given by = $\frac{1/5}{1}$

= $\frac{1}{5}$

(2) **Which of the following gives the inverse of** $\frac{7/8}{5/6}$ **?**

i. $\frac{42}{40}$

ii. $\frac{40}{42}$ **----------Correct**

iii. $\frac{56}{35}$

iv. $\frac{35}{56}$

Explanation:

The inverse of $\frac{7/8}{5/6}$ is given by = $\frac{5/6}{7/8}$

= $\frac{5X8}{7X6}$ = $\frac{40}{42}$

(3) **Which set of the following fractions are the irreducible fractions of** $\frac{4}{-5}\times\frac{15}{26}$, $\frac{1}{7/14}$, $\frac{6/9}{9/6}$?

i. $\frac{60}{-130}$, $\frac{14}{7}$, $\frac{36}{81}$

ii. $\frac{6}{-13}$, $\frac{2}{1}$, $\frac{4}{9}$ **....Correct**

iii. $\frac{6}{-13}$, $\frac{2}{1}$, $\frac{36}{81}$

iv. $\frac{60}{-130}$, $\frac{2}{1}$, $\frac{4}{9}$

Explanation:

•Consider $\frac{4}{-5}\times\frac{15}{26}$

$\frac{4}{-5}\times\frac{15}{26}$ = $\frac{4X15}{-5X26}$ = $\frac{60}{-130}$

here the GCD (60 ,130) =10

So $\frac{60/10}{-130/10}$ = $\frac{6}{-13}$

• $\frac{1}{7/14}$ can be written as $\frac{14}{7}$

here the GCD (14,7) = 7

So $\frac{14/7}{7/7} = \frac{2}{1}$

- $\frac{6/9}{9/6} = \frac{6X6}{9X9} = \frac{36}{81}$

here the GCD (36,81) = 9

$\frac{36/9}{81/9} = \frac{4}{9}$

So the irreducible fraction of the $\frac{4}{-5}\times\frac{15}{26}$, $\frac{1}{7/14}$, $\frac{6/9}{9/6}$ **are** $\frac{6}{-13}$, $\frac{2}{1}$ **and** $\frac{4}{9}$ **.**

(4) Solve the following and find the irreducible fraction?

$$\{5\frac{6}{13}-\frac{5}{4/3}\}\times\{\frac{7}{5}+\frac{3}{5}\}$$

Explanation:

The given fraction is $\{5\frac{6}{13}-\frac{5}{4/3}\}\times\{\frac{7}{5}+\frac{3}{5}\}$

Here $5\frac{6}{13}-\frac{5}{4/3} = \frac{65+6}{13} - \frac{5X3}{4} = \frac{71}{13} - \frac{15}{4}$

The LCM(13,4) = 52

$\frac{71}{13} - \frac{15}{4} = \frac{71X4}{13X4} - \frac{15X13}{4X13}$

$= \frac{284}{52} - \frac{195}{52}$

$= \frac{284-195}{52} = \frac{89}{52}$ .....(1)

and $\frac{7}{5}+\frac{3}{5} = \frac{7+3}{5} = \frac{10}{5}$ .....(2)

Hence from (1) and (2) we get,

$\{5\frac{6}{13}-\frac{5}{4/3}\}\times\{\frac{7}{5}+\frac{3}{5}\}$ can be written as $\frac{89}{52}$ X $\frac{10}{5}$

$$\frac{89}{52} \text{ X } \frac{10}{5} = \frac{89X10}{52X5} = \frac{890}{260}$$

here the GCD (890,260)= 10

$$\frac{890/10}{260/10} = \frac{89}{26}$$

So the irreducible fraction of the $\{5\frac{6}{13}-\frac{5}{4/3}\}\times\{\frac{7}{5}+\frac{3}{5}\}$ **is given by** $\frac{89}{26}$ **.**

Solved Question.

Let us see solved examples to learn how to convert the statement into the mathematical equations:
Examples:

(1) What is the two tenth of 175?

Solution: Two tenth = 2 / 10 = 1 / 5
Hence two tenth of 175 = 2 / 10 X 175 = 1 / 5 X 175= 35

(2) Find X if X is one fifth more than 25?

Solution: One fifth of 25 = 1/5 X 25 = 5
X is one fifth more than 25 means
X = 25 + one fifth of 25
= 25 + 1/5 X 25
= 25 + 5
= 30

(3) Find Y if Y is one eighth less than 64?

Solution: One eighth of 64 = 1/8 X 64 = 8
Y is one eighth less than 64 means
Y = 64 - one eighth of 64
= 64 - 1/8 X 64
= 64 - 8
= 56

(4) John has N number of tickets. He gives away half of them to his brother Jack. Jack

distributes those among his four friends equally. Now, if each friend of Jack has 3 tickets, then how many tickets did John have with him initially ?

Solution: **Given that** John has N number of ticket .
The no. of ticket Jack got from the John = N/2

Jack distributed all his ticket equally into his four friends
So each friend of Jack will receive $\frac{N/2}{4} = \frac{N}{8}$ tickets

It is given that each friend of Jack has 3 ticket ,

$\rightarrow \frac{N}{8} = 3$
$\rightarrow$ N= 24

So John initially had 24 tickets.

(5) Frank and Joe together had invested some amount in a company. Frank's investment was thrice the investment of Joe. At the end of the year, Frank and Joe got one fifth more than the amount that they had invested. If Joe alone had invested $25,000, then what is the total amount received by Frank and Joe?

Solution:

Let consider that the the Frank invested x amount and Joe invested y amount .

Given : Frank investment thrice as Joe investment
So x =3 y

The total investment = x + y
= 3 y + y = 4 y
At the end of the year Frank and Joe receiving one Fifth more than the total investment.

So the total amount received by the Frank and Joe = $4y + \frac{1}{5}$ of (4y)

$= 4y + \frac{4y}{5} = \frac{24y}{5}$

Given that Joe alone had invested $ 25,000.
So here y = 25,000

So the total amount received by the Frank and Joe = $\frac{24y}{5} = \frac{24 X 25{,}000}{5}$ **=$ 120,000**

(6) Jenny and Rose has got common Birthday. The current age of Jenny is thrice the current age of Rose. If the sum of their current age is 80, then what will be the age of Rose after 3 years?

Solution:

Let Consider the current age of Jenny is x and Rose is y.

Given :

- The Current age of Jenny is thrice of Rose age
- And the sum of their age is 80.

Here $x = 3y$
And $x + y = 80$ --------(1)

put the value of the $x = 3y$ in the (1)

$3y + y = 80$
$4y = 80$
$y = 20$
So the current age of the Rose is 20 and jenny age is $3X20 = 60$

The age of Rose after 3 year is given by
$20 + 3 = 23$

Review Test (Easy).

(1) What is one third of $\frac{36}{12}$?

i. $\frac{1}{12}$
ii. $\frac{1}{3}$
iii. 1 ----------Correct
iv. $\frac{12}{36}$

Explanation:

One third of the $\frac{36}{12} = \frac{1}{3} \text{ X } \frac{36}{12}$

$= \frac{36}{3X12} = \frac{36}{36} = 1$

(2) What is the irreducible fraction of inverse of $4 \times \frac{3}{8} - \frac{7}{4} + 12$?

i. $\frac{8}{94}$

ii. $\frac{94}{8}$

iii. $\frac{47}{4}$

iv. $\frac{4}{47}$ **------Correct**

Explanation:

To Find: The irreducible fraction of inverse of the $4\times\frac{3}{8}-\frac{7}{4}+12$

Step1: $4\times\frac{3}{8}-\frac{7}{4}+12 = \frac{4X3}{8}-\frac{7}{4}+12$

$= \frac{12}{8}-\frac{7}{4}+12$

here the LCM(8,4) = 8

$\frac{12}{8}-\frac{7}{4}+12 = \frac{12}{8}-\frac{7X2}{4X2}+\frac{12X8}{8} = \frac{12}{8}-\frac{14}{8}+\frac{96}{8}$

$= \frac{12-14+96}{8} = \frac{94}{8}$

Step2 : The inverse of the $\frac{94}{8} = \frac{8}{94}$

Step 3: $\frac{8}{94}$

here the GCD(8,94) = 2

so the $\frac{8/2}{94/2} = \frac{4}{47}$

So the irreducible fraction of inverse of the $4\times\frac{3}{8}-\frac{7}{4}+12$ **is given by** $\frac{4}{47}$

(3) In a class room, three fifth of the students are boys. Given that only half of the total students have passed in history, find the fraction of the girls who passed in history if the numbers of boys and girls who passed in history are 10 and 20 respectively.

i. $\frac{1}{6}$

ii. $\frac{1}{3}$

iii. $\frac{5}{6}$ ------- Correct

iv. $\frac{3}{5}$

Solution:

Given :

- Three fifth student are boys.
- Half of the total student passed in the history
- 10 boys and 20 girls are passed in the history.

To find: The fraction of the girls who passed in history

Step 1:

Let consider that the total N student are in class .

The total no. of the boys in the class $= \frac{3}{5} X N$

and the total no. of girls in the class = N - $\frac{3}{5} X N = \frac{2}{5} X N$

Total student passed in history = total boy passed in history + total girls passed in history

$$\frac{N}{2} = 10 + 20$$

$$\frac{N}{2} = 30$$

$$N = 60$$

So total no of girls in class = $\frac{2}{5} X N = \frac{2}{5} X 60$

$= 24$

Step 2:

Required fraction $= \frac{total\ no\ of\ the\ girls\ passed}{total\ no\ girls} = \frac{20}{24}$

here the GCD (20,24) = 4

$\frac{20/4}{24/4} = \frac{5}{6}$

So the fraction of the girls who passed in history is given by $\frac{5}{6}$.

(4) Maddy had $240 in his account. He said that he will spend half the amount left in his account everyday. How much dollars will Maddy have after fours days if no amount is added to his account?

i. $ 120
ii. $ 60
iii. $ 30
iv. $ 15 **------(Correct)**

Solution:

Given :

Total amount = $ 240
Everyday he is spending half of the amount left in the account.
No amount is added to his account.

To find: Amount left with Maddy after 4 days

So after first day amount remaining = $240 - \frac{1}{2} \times 240$

$= 120$

after 2^{nd} day amount remaining = $120 - \frac{1}{2} \times 120 = 60$

after 3^{rd} day amount remaining = $60 - \frac{1}{2} \times 60 = 30$

after 4th day amount remaining = $30 - \frac{1}{2} \times 30 = 15$

So the after four day Maddy have $ 15 remaining in his account.

(5) Mary goes to a shop to purchase a dress. She liked the dress whose price was $490. But she found that she will need two fifth more than what she had. How much money did she had?

i. $ 200
ii. $ 300
iii. $ 350 **------Correct**
iv. $ 196

Solution:

Lets consider that Mary had total R amount of money .

The price of the dress = $ 490 .

Mary need two fifth more than that she had ,to purchase that dress .

So $R + \frac{2}{5} R = 490$

$$\left(1+\frac{2}{5}\right)R = 490$$

$$\frac{7}{5}R = 490$$

$$R = \frac{2450}{7} = 350$$

Mary had total $ 350

.