

Assignment - 2

Q1 \rightarrow Constant
 $M:W$
 $2:3 \times 4$
 $4:11 \times 2$

$M:W$

$8:12$
 $8:22$] 10 unit

1 unit = 1ltr

10 unit = 10ltr

So, 10ltr water is added to the milk water mixture.

Ans

Q2 $2x+3y=0$
 for x-axis, $y=0$
 $2x+0=0$
 $x=0$

for y-axis, $x=0$
 $3y=0$
 $y=0$

$(0,0)$ Ans

Q3 $a^2-b^2=19$
 $(a-b)(a+b)=19$
 $(a+b) \times (a-b)=19$
 $a+b=19$
 $a=10, b=9$
 Ans

Q4 In ques it must be
 $a^3+b^3+c^3-3abc$
 $(a+b+c)=5$
 $a^2+b^2+c^2=10$

$a^3+b^3+c^3-3abc = (a+b+c)[a^2+b^2+c^2 - ab-bc-ca]$

$(a+b+c)^2 = a^2+b^2+c^2+2(ab+bc+ca)$

$(5)^2 = 10+2(ab+bc+ca)$

$25-10 = 2(ab+bc+ca)$

$ab+bc+ca = 7.5$

$a^3+b^3+c^3-3abc = (a+b+c)$

$[a^2+b^2+c^2 - ab-bc-ca]$

Taking RHS

$(a+b+c)[a^2+b^2+c^2 - (ab+bc+ca)]$

$5 \times [10 - 7.5]$

$5 \times [2.5]$

$= 12.5$

$a^3+b^3+c^3-3abc = 12.5$ Ans

Q5 Consecutive positive integers are
 $x, (x+1)$

1st NO = $10x + (x+1) = 11x+1$

2nd NO = $10(x+1) + x = 11x+10$

$(11x+1) + (11x+10)$

$22x+11$

It is a perfect square

On putting $x=5$, we get
 $22 \times 5 + 11 = 121 = (11)^2$

So, 1st NO = $11 \times 5 + 1 = 56$

2nd NO = $11 \times 5 + 10 = 65$

Square root of their sum = $\sqrt{56+65} = \sqrt{121} = 11$
 Ans