EXERCISE 4.3                                                    PAGE: 89

**1. Solve the following equations:**
**(a) 2y + (5/2) = (37/2)**
**Solution:-**
By transposing (5/2) from LHS to RHS it becomes -5/2
Then,
        = 2y = (37/2) – (5/2)
        = 2y = (37-5)/2
        = 2y = 32/2
Now,
Divide both side by 2,
        = 2y/2 = (32/2)/2
        = y = (32/2) × (1/2)
        = y = 32/4
        = y = 8

**(b) 5t + 28 = 10**
**Solution:-**
By transposing 28 from LHS to RHS it becomes -28
Then,
        = 5t = 10 – 28
        = 5t = - 18
Now,
Divide both side by 5,
        = 5t/5= -18/5
        = t = -18/5

**(c) (a/5) + 3 = 2**
**Solution:-**
By transposing 3 from LHS to RHS it becomes -3
Then,
        = a/5 = 2 – 3
        = a/5 = - 1
Now,
Multiply both side by 5,
        = (a/5) × 5= -1 × 5

= a = -5

**(d) (q/4) + 7 = 5**
**Solution:-**
By transposing 7 from LHS to RHS it becomes -7
Then,

= q/4 = 5 – 7
= q/4 = - 2

Now,
Multiply both side by 4,

= (q/4) × 4= -2 × 4
= a = -8

**(e) (5/2) x = -5**
**Solution:-**
First we have to multiply both the side by 2,

= (5x/2) × 2 = - 5 × 2
= 5x = - 10

Now,
We have to divide both the side by 5,
Then we get,

= 5x/5 = -10/5
= x = -2

**(f) (5/2) x = 25/4**
**Solution:-**
First we have to multiply both the side by 2,

= (5x/2) × 2 = (25/4) × 2
= 5x = (25/2)

Now,
We have to divide both the side by 5,
Then we get,

= 5x/5 = (25/2)/5
= x = (25/2) × (1/5)
= x = (5/2)

**(g) 7m + (19/2) = 13**

**Solution:-**

By transposing (19/2) from LHS to RHS it becomes -19/2

Then,

$= 7m = 13 - (19/2)$

$= 7m = (26 - 19)/2$

$= 7m = 7/2$

Now,

Divide both side by 7,

$= 7m/7 = (7/2)/7$

$= m = (7/2) × (1/7)$

$= m = ½$

**(h) 6z + 10 = - 2**

**Solution:-**

By transposing 10 from LHS to RHS it becomes - 10

Then,

$= 6z = -2 - 10$

$= 6z = - 12$

Now,

Divide both side by 6,

$= 6z/6 = -12/6$

$= m = - 2$

**(i) (3/2) l = 2/3**

**Solution:-**

First we have to multiply both the side by 2,

$= (3l/2) × 2 = (2/3) × 2$

$= 3l = (4/3)$

Now,

We have to divide both the side by 3,

Then we get,

$= 3l/3 = (4/3)/3$

$= l = (4/3) × (1/3)$

$= x = (4/9)$

**(j) (2b/3) - 5 = 3**

**Solution:-**

By transposing -5 from LHS to RHS it becomes 5
Then,

= 2b/3 = 3 + 5
= 2b/3 = 8

Now,
Multiply both side by 3,

= (2b/3) × 3= 8 × 3
= 2b = 24

And,
Divide both side by 2,

= 2b/2 = 24/2
= b = 12

**2. Solve the following equations:**
**(a) 2(x + 4) = 12**
**Solution:-**
Let us divide both the side by 2,

= (2(x + 4))/2 = 12/2
= x + 4 = 6

By transposing 4 from LHS to RHS it becomes -4

= x = 6 – 4
= x = 2

**(b) 3(n – 5) = 21**
**Solution:-**
Let us divide both the side by 3,

= (3(n - 5))/3 = 21/3
= n - 5 = 7

By transposing -5 from LHS to RHS it becomes 5

= n = 7 + 5
= n = 12

**(c) 3(n – 5) = – 21**
**Solution:-**
Let us divide both the side by 3,

= (3(n - 5))/3 = - 21/3

= n - 5 = -7
By transposing -5 from LHS to RHS it becomes 5
     = n = - 7 + 5
     = n = - 2

**(d) – 4(2 + x) = 8**
**Solution:-**
Let us divide both the side by -4,
     = (-4(2 + x))/ (-4) = 8/ (-4)
     = 2 + x = -2
By transposing 2 from LHS to RHS it becomes - 2
     = x = -2 - 2
     = x = - 4

**(e) 4(2 – x) = 8**
**Solution:-**
Let us divide both the side by 4,
     = (4(2 - x))/ 4 = 8/ 4
     = 2 - x = 2
By transposing 2 from LHS to RHS it becomes - 2
     = - x = 2 - 2
     = - x = 0
     = x = 0

**3. Solve the following equations:**
**(a) 4 = 5(p – 2)**
**Solution:-**
Let us divide both the side by 5,
     = 4/5 = (5(p – 2))/5
     = 4/5 = p -2
By transposing - 2 from RHS to LHS it becomes 2
     = (4/5) + 2 = p
     = (4 + 10)/ 5 = p
     = p = 14/5

**(b) – 4 = 5(p – 2)**
**Solution:-**

Let us divide both the side by 5,

$= - 4/5 = (5(p – 2))/5$

$= - 4/5 = p -2$

By transposing - 2 from RHS to LHS it becomes 2

$= - (4/5) + 2 = p$

$= (- 4 + 10)/ 5 = p$

$= p = 6/5$

## (c) 16 = 4 + 3(t + 2)
**Solution:-**

By transposing 4 from RHS to LHS it becomes – 4

$= 16 – 4 = 3(t + 2)$

$= 12 = 3(t + 2)$

Let us divide both the side by 3,

$= 12/3 = (3(t + 2))/ 3$

$= 4 = t + 2$

By transposing 2 from RHS to LHS it becomes - 2

$= 4 – 2 = t$

$= t = 2$

## (d) 4 + 5(p – 1) =34
**Solution:-**

By transposing 4 from LHS to RHS it becomes – 4

$= 5(p – 1) = 34 – 4$

$= 5(p - 1) = 30$

Let us divide both the side by 5,

$= (5(p - 1))/ 5 = 30/5$

$= p – 1 = 6$

By transposing - 1 from RHS to LHS it becomes 1

$= p = 6 + 1$

$= p = 7$

## (e) 0 = 16 + 4(m – 6)
**Solution:-**

By transposing 16 from RHS to LHS it becomes – 16

$= 0 – 16 = 4(m - 6)$

$= - 16 = 4(m - 6)$

Let us divide both the side by 4,
　　　= - 16/4 = (4(m - 6))/ 4
　　　= - 4 = m - 6
By transposing - 6 from RHS to LHS it becomes 6
　　　= - 4 + 6 = m
　　　= m = 2


## 4. (a) Construct 3 equations starting with x = 2
**Solution:-**
First equation is,
Multiply both side by 6
　　　= 6x = 12　　　　　　　　　　　… [equation 1]
Second equation is,
Subtracting 4 from both side,
　　　= 6x – 4 = 12 -4
　　　= 6x – 4 = 8　　　　　　　　　… [equation 2]
Third equation is,
Divide both side by 6
　　　= (6x/6) – (4/6) = (8/6)
　　　= x – (4/6) = (8/6)　　　　　　… [equation 3]

## (b) Construct 3 equations starting with x = – 2
**Solution:-**
First equation is,
Multiply both side by 5
　　　= 5x = -10　　　　　　　　　　… [equation 1]
Second equation is,
Subtracting 3 from both side,
　　　= 5x – 3 = - 10 – 3
　　　= 5x - 3 = - 13　　　　　　　… [equation 2]
Third equation is,
Dividing both sides by 2
　　　= (5x/2) – (3/2) = (-13/2)　　　… [equation 3]