EXERCISE 12B

Solve:

1. 8y – 4y = 20

Solution:

8y – 4y = 20
By further calculation
4y = 20
So we get
y = 20/4 = 5

2. 9b – 4b + 3b = 16

Solution:

9b – 4b + 3b = 16
By further calculation
8b = 16
So we get
b = 16/8 = 2

3. 5y + 8 = 8y – 18

Solution:

5y + 8 = 8y – 18
By further calculation
8y – 5y = 8 + 18
So we get
3y = 26
y = 26/3 = 8 2/3

4. 6 = 7 + 2p – 5

Solution:

6 = 7 + 2p – 5
By further calculation
2p = 6 – 7 + 5
So we get
2p = 4
p = 4/2 = 2

5. 8 – 7x = 13x + 8

Solution:

8 – 7x = 13x + 8
By further calculation
13x + 7x = 8 – 8
20x = 0
x = 0/20 = 0

6. 4x – 5x + 2x = 28 + 3x
Solution:

4x – 5x + 2x = 28 + 3x
By further calculation
4x – 5x + 2x – 3x = 28
So we get
- 2x = 28
x = 28/-2 = - 14

7. 9 + m = 6m + 8 – m
Solution:

9 + m = 6m + 8 – m
By further calculation
6m – m – m = 9 - 8
4m = 1
So we get
m = 1/4

8. 24 = y + 2y + 3 + 4y
Solution:

24 = y + 2y + 3 + 4y
By further calculation
24 – 3 = 7y
21 = 7y
So we get
y = 21/7 = 3

9. 19x + 13 – 12x + 3 = 23
Solution:

19x + 13 – 12x + 3 = 23
By further calculation
7x = 23 – 16
So we get
7x = 7
x = 7/7 = 1

10. 6b + 40 = - 100 – b
Solution:

6b + 40 = - 100 – b
By further calculation
7b = - 100 – 40
7b = -140
So we get
b = -140/7 = - 20

11. 6 – 5m – 1 + 3m = 0
Solution:

6 – 5m – 1 + 3m = 0
By further calculation
5 – 2m = 0
So we get
2m = 5
m = 5/2 = 2 1/2

12. 0.4x – 1.2 = 0.3x + 0.6
Solution:

0.4x – 1.2 = 0.3x + 0.6
By further calculation
0.1x = 1.8
Multiply and divide both numerator and denominator by 10
1/10x = 18/10
By cross multiplication
x = 18/10 × 10/1 = 18

13. 6 (x + 4) = 36
Solution:

6 (x + 4) = 36
By further calculation
6x + 24 = 36
So we get
6x = 36 – 24
6x = 12
x = 12/6 = 2

14. 9 (a + 5) + 2 = 11
Solution:

9 (a + 5) + 2 = 11
By further calculation
9a + 45 + 2 = 11
So we get
9a = 11 – 47
9a = - 36
a = -36/9 = - 4

15. 4 (x – 2) = 12
Solution:

4 (x – 2) = 12
By further calculation
4x – 8 = 12
So we get

$4x = 20$
$x = 20/4 = 5$