

I Can Solve Equations by Combining Like Terms to Simplify the Equation first.

Solving Equations by Combining Like Terms

We Do:

Combining Like Terms

Two Inverse Operations Steps

1. $18 = a + 5 + 9$	2. $n - 5 + 17 = 25$
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You Do:

3. $m + 16 + 12 = 50$	4. $30 = p - 9 + 19$	6. $8 + g - 19 = 3$
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We Do:

7. $4a + a = 15$	8. $20 = 8m - 6m$	9. $2y + 8y - 3y = 21$
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You Do:

10. $45 = k + 7k + k$	11. $29v - 25v = 44$	12. $100 = 16x + x - 7x$
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Word Problems: WRITE equations FIRST and then SOLVE to Answer the Problem**We Do:**

1. The product of 4 and a number plus the product of 3 and the same number is 35. What is the number?

2. A number added to 12 and then subtracted by 18 equals 26. What is the number?

You Do:

3. Beth is 3 times older than her sister Jill. If together their ages are ~~28~~, how old is each girl?

24

4. A number minus 8 and then subtracted by 12 is equal to 5. What is the number?

I Can Solve Equations by Combining Like Terms to Simplify the Equation first.

Solving Equations by Combining Like Terms

We Do:

Combining Like Terms

1. $18 = a + 5 + 9$

$$\begin{array}{r} 18 = a + 5 + 9 \\ -14 \quad -14 \\ \hline 4 = a \end{array}$$

Two Inverse Operations Steps

2. $n - 5 + 17 = 25$

$$\begin{array}{r} n - 5 + 17 = 25 \\ -17 \quad -17 \\ \hline n - 5 = 8 \\ +5 \quad +5 \\ \hline n = 13 \end{array}$$

You Do:

3. $m + 16 + 12 = 50$

$$\begin{array}{r} m + 16 + 12 = 50 \\ -28 \quad -28 \\ \hline m = 22 \end{array}$$

4. $30 = p - 9 + 19$

$$\begin{array}{r} 30 = p - 9 + 19 \\ -10 \quad -10 \\ \hline 20 = p \end{array}$$

6. $8 + g - 19 = 3$

$$\begin{array}{r} 8 + g - 19 = 3 \\ +19 \quad +19 \\ \hline 8 + g = 22 \\ -8 \quad -8 \\ \hline g = 14 \end{array}$$

We Do:

7. $4a + a = 15$

$$\begin{array}{r} 4a + a = 15 \\ 5a = 15 \\ \div 5 \quad \div 5 \\ \hline a = 3 \end{array}$$

8. $20 = 8m - 6m$

$$\begin{array}{r} 20 = 8m - 6m \\ 20 = 2m \\ \div 2 \quad \div 2 \\ \hline 10 = m \end{array}$$

9. $2y + 8y - 3y = 21$

$$\begin{array}{r} 2y + 8y - 3y = 21 \\ 7y = 21 \\ \div 7 \quad \div 7 \\ \hline y = 3 \end{array}$$

You Do:

10. $45 = k + 7k + k$

$45 = 9 \cdot k$

$\div 9 \quad \div 9$

$5 = k$

11. $29v - 25v = 44$

$\cancel{4}v = 44$

$\div 4 \quad \div 4$

$v = 11$

12. $100 = 16x + x - 7x$

$100 = 10x$

$\div 10 \quad \div 10$

$10 = x$

Word Problems: WRITE equations FIRST and then SOLVE to Answer the Problem

We Do:

1. The product of 4 and a number plus the product of 3 and the same number is 35. What is the number?

$4 \cdot x + 3 \cdot x = 35$

$7x = 35$

$\div 7 \quad \div 7$

$x = 5$

2. A number added to 12 and then subtracted by 18 equals 26. What is the number?

$x + 12 + 18 = 26$

$x + 12 = 44$

$-12 \quad -12$

$x = 32$

You Do:

3. Beth is 3 times older than her sister Jill. If together their ages are ~~20~~ ²⁴, how old is each girl?

Jill: $j = 6$

Beth: $3j = 18$

$j + 3j = 24$

$4j = 24$

$\div 4 \quad \div 4$

$j = 6$

4. A number minus 8 and then subtracted by 12 is equal to 5. What is the number?

$x - 8 - 12 = 5$

$x - 20 = 5$

$+20 \quad +20$

$x = 25$