

Outcome 3 - Multi Step Equations

Bronze examples

Examples...

1. Take away 3!
2. Divide by 4!

$$\begin{array}{r} 4x + 3 = 27 \\ -3 \quad -3 \\ \hline 4x = 24 \\ \div 4 \quad \div 4 \\ \hline x = 6 \end{array}$$

$$\begin{array}{r} 3x - 5 = 16 \\ +5 \quad +5 \\ \hline 3x = 21 \\ \div 3 \quad \div 3 \\ \hline x = 7 \end{array}$$

Silver examples

Examples...

$$\begin{array}{r} 7x + 7 = 2x + 22 \\ -2x \quad -7 \quad -2x \quad -7 \\ \hline 5x = 15 \quad x = 3 \end{array}$$

$$\begin{array}{r} 5x - 6 = 2x + 21 \\ -2x \quad +6 \quad -2x \quad +6 \\ \hline 3x = 27 \quad x = 9 \end{array}$$

Get all the x's on one side and the numbers on the other!
Divide by 5!

Get all the x's on one side and the numbers on the other!
Divide by 3!

Gold example

Examples...

$$\begin{array}{r} 5(x - 1) = 3(x + 5) \\ -3x + 5 \quad -3x \quad +5 \\ \hline 2x = 20 \\ \hline x = 10 \end{array}$$

Multiply out the brackets!

Get all the x's on one side and the numbers on the other!
Divide by 2!

Bronze Questions

Solve the following equations...

1. $3x + 7 = 31$
2. $4a + 1 = 17$
3. $7p + 6 = 13$
4. $9c + 10 = 100$
5. $2d - 1 = 5$
6. $5t - 4 = 26$
7. $8m - 7 = 49$
8. $6s - 5 = 61$
9. $4w + 1 = -11$
10. $7n - 9 = -72$

Silver Questions

Solve the following equations...

1. $4x + 1 = 2x + 17$
2. $5a + 3 = 2a + 12$
3. $6p + 7 = p + 32$
4. $10c + 2 = c + 20$
5. $4d + 2 = d + 8$
6. $5t - 5 = t - 10$
7. $3m - 2 = 2m - 10$
8. $6s - 4 = 3s - 7$
9. $7w - 11 = 2w - 1$
10. $6n - 1 = 3n - 10$

Gold Questions

Solve the following equations with brackets...

1. $4(x + 1) = 20$
2. $5(a - 1) = a - 1$
3. $5(p + 3) = 10$
4. $3(c - 2) = 2(c - 1)$
5. $6(d + 7) = 30$
6. $6(t - 4) = 3(t - 1)$
7. $3(m - 1) = 6$
8. $7(s - 1) = 6(s - 1)$
9. $4(w + 2) = 8$
10. $6(n - 1) = 5(n - 2)$

Bronze Answers

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|----|----------|-----|----------|
| 1. | $x = 8$ | 2. | $a = 4$ |
| 3. | $p = 1$ | 4. | $c = 10$ |
| 5. | $d = 3$ | 6. | $t = 6$ |
| 7. | $m = 7$ | 8. | $s = 11$ |
| 9. | $w = -3$ | 10. | $n = -9$ |

Silver Answers

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|----|----------|-----|----------|
| 1. | $x = 8$ | 2. | $a = 3$ |
| 3. | $p = 5$ | 4. | $c = 2$ |
| 5. | $d = 8$ | 6. | $t = 2$ |
| 7. | $m = -8$ | 8. | $s = -1$ |
| 9. | $w = 2$ | 10. | $n = -3$ |

Gold Answers

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|----|----------|-----|----------|
| 1. | $x = 4$ | 2. | $a = 1$ |
| 3. | $p = -1$ | 4. | $c = -4$ |
| 5. | $d = -2$ | 6. | $t = 7$ |
| 7. | $m = 3$ | 8. | $s = 1$ |
| 9. | $w = 0$ | 10. | $n = -4$ |