

# QUICK COVER

# Solving linear equations 3

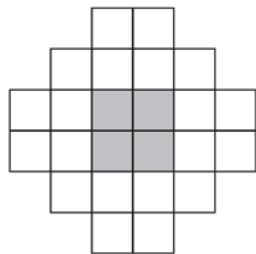
**Task 1** : Solving  $ax + b = cx + 16$

**Task 2** : Solving  $ax \pm b = cx \pm d$

**Task 3** : Solving  $ax \pm b = c - dx$

**Task 4** : Mixture of Tasks 2 & 3

**Puzzle : TASK 4**



# Help and hints.....

# Solving linear equations 3

Remember that you must 'do the same' to the expressions on both sides of the equals sign.

## TASK 1

$$\begin{array}{r} 4x + 3 = 2x + 15 \\ -2x \quad -2x \end{array}$$

Subtract 2x from both sides

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

Subtract 3 from both sides

$$2x = 12$$

$$x = 6$$

Divide both sides by 2

## TASK 2

$$\begin{array}{r} 6x - 5 = 2x + 15 \\ -2x \quad -2x \end{array}$$

Subtract 2x from both sides

$$\begin{array}{r} 4x - 5 = 15 \\ +5 \quad +5 \end{array}$$

Add 5 to both sides

$$4x = 20$$

$$x = 5$$

Divide both sides by 4

## TASK 3 & 4

$$\begin{array}{r} 5x + 4 = 28 - 3x \\ +3x \quad +3x \end{array}$$

Add 3x to both sides

$$\begin{array}{r} 8x + 4 = 28 \\ -4 \quad -4 \end{array}$$

Subtract 4 from both sides

$$8x = 24$$

$$x = 3$$

Divide both sides by 3

# Solving Equations 3

<b>TASK 1</b>	<b>TASK 2</b>	<b>TASK 3</b>	<b>TASK 4</b>
<b>1.</b> $6x + 1 = 2x + 21$	<b>1.</b> $5x + 11 = 2x - 1$	<b>1.</b> $5x - 4 = 46 - 5x$	<b>1.</b> $5x + 12 = 2x + 13.5$
<b>2.</b> $6x + 6 = 5x + 11$	<b>2.</b> $7x - 6 = 5x - 4$	<b>2.</b> $6x + 9 = 41 - 2x$	<b>2.</b> $6x + 3 = 2x + 5$
<b>3.</b> $6x + 4 = 2x + 24$	<b>3.</b> $5x - 2 = 3x + 6$	<b>3.</b> $5x - 6 = 22 - 2x$	<b>3.</b> $5x - 10 = 2x - 13$
<b>4.</b> $3x + 4 = 2x + 9$	<b>4.</b> $5x - 2 = 2x + 13$	<b>4.</b> $3x - 4 = 6 - 2x$	<b>4.</b> $5x - 9 = 1 - 5x$
<b>5.</b> $4x + 5 = 3x + 7$	<b>5.</b> $6x + 10 = 3x + 22$	<b>5.</b> $2x + 4 = 40 - 4x$	<b>5.</b> $6x - 11 = -43 - 2x$
<b>6.</b> $6x + 1 = 2x + 13$	<b>6.</b> $6x + 10 = 4x + 18$	<b>6.</b> $4x - 2 = 34 - 2x$	<b>6.</b> $5x - 7 = -14 - 2x$
<b>7.</b> $6x + 4 = 2x + 12$	<b>7.</b> $5x - 9 = 4x - 13$	<b>7.</b> $4x - 6 = 30 - 2x$	<b>7.</b> $6x + 1 = -17 - 3x$
<b>8.</b> $6x + 4 = 5x + 7$	<b>8.</b> $5x - 10 = 3x + 2$	<b>8.</b> $4x - 10 = 71 - 5x$	<b>8.</b> $5x - 2 = 2x + 1$
<b>9.</b> $3x + 2 = 2x + 5$	<b>9.</b> $3x - 2 = 2x - 6$	<b>9.</b> $3x + 3 = 59 - 5x$	<b>9.</b> $6x + 6 = -14 - 4x$
<b>10.</b> $7x + 3 = 3x + 11$	<b>10.</b> $5x + 11 = 3x + 9$	<b>10.</b> $3x - 1 = 63 - 5x$	<b>10.</b> $5x - 1 = 27 - 2x$
<b>11.</b> $3x + 3 = 2x + 6$	<b>11.</b> $4x - 10 = 2x + 2$	<b>11.</b> $6x + 9 = 39 - 4x$	<b>11.</b> $5x - 9 = 2x$
<b>12.</b> $7x + 4 = 5x + 8$	<b>12.</b> $7x + 6 = 4x + 7.5$	<b>12.</b> $2x - 4 = 8 - 4x$	<b>12.</b> $4x - 2 = 6 - 4x$
<b>13.</b> $7x + 3 = 2x + 23$	<b>13.</b> $8x - 6 = 4x + 10$	<b>13.</b> $2x - 6 = 43 - 5x$	<b>13.</b> $3x - 4 = 6 - 2x$
<b>14.</b> $8x + 4 = 2x + 22$	<b>14.</b> $4x + 10 = 2x + 2$	<b>14.</b> $3x + 8 = 50 - 4x$	<b>14.</b> $5x + 2 = -22 - 3x$
<b>15.</b> $8x + 4 = 2x + 28$	<b>15.</b> $4x + 9 = 2x + 13$	<b>15.</b> $6x + 1 = 91 - 4x$	<b>15.</b> $5x + 6 = -30 - 4x$

# Solving Equations 3

## ANSWERS

TASK 1		TASK 2		TASK 3		TASK 4	
1.	$x = 5$	1.	$x = -4$	1.	$x = 5$	1.	$x = 0.5$
2.	$x = 5$	2.	$x = 1$	2.	$x = 4$	2.	$x = 0.5$
3.	$x = 5$	3.	$x = 4$	3.	$x = 4$	3.	$x = -1$
4.	$x = 5$	4.	$x = 5$	4.	$x = 2$	4.	$x = 1$
5.	$x = 2$	5.	$x = 4$	5.	$x = 6$	5.	$x = -4$
6.	$x = 3$	6.	$x = 4$	6.	$x = 6$	6.	$x = -1$
7.	$x = 2$	7.	$x = -4$	7.	$x = 6$	7.	$x = -2$
8.	$x = 3$	8.	$x = 6$	8.	$x = 9$	8.	$x = 1$
9.	$x = 3$	9.	$x = -4$	9.	$x = 7$	9.	$x = -2$
10.	$x = 2$	10.	$x = -1$	10.	$x = 8$	10.	$x = 4$
11.	$x = 3$	11.	$x = 6$	11.	$x = 3$	11.	$x = 3$
12.	$x = 2$	12.	$x = 0.5$	12.	$x = 2$	12.	$x = 1$
13.	$x = 4$	13.	$x = 4$	13.	$x = 7$	13.	$x = 2$
14.	$x = 3$	14.	$x = -4$	14.	$x = 6$	14.	$x = -3$
15.	$x = 4$	15.	$x = 2$	15.	$x = 9$	15.	$x = -4$

$x = -4$	$8x + 7 = 5x + 10$	$x^2 - 15 = 7 + x$	$2x$
$x = -7$	$5.7 - 2 = x$	$9 - x$	$x = 4$
$x = -10$	$3x + 12 = -24 - 3x$	$81 + x^2 = 21 + x$	$49 + x^2 = 4 + x$
$x = -19$	$61 - x = x$	$5.0 = x$	$x^5 - 17 = 3 - x$
$x = 2.5$	$x = 1.5$	$x = -1$	$x = 3.5$
$x = 2$	$x = 10$	$x = 10$	$x = 10$
$8 - x - 3 = 2x - 8$	$3x - 3 = 2x - 8$	$6x + 7 = -15.5 - 3x$	$6x - 2 = -18 - 2x$
		$1 = x$	$7 = x$
		$3x + 9 = 6 - 3x$	$3x + 9 = 6 - 3x$
		$x^2 - 2 = 65 - 3x$	$6x - 2 = -18 - 2x$
		$x = -5$	$6x - 7 = 63 - 4x$
		$x = -2$	$5 = x$
		$x = 3$	$7 + x^3 = 11 + x$
		$4x + 4 = 2x + 14$	$5 = x$
		$3x - 10 = 2x - 9.5$	$x^4 + 20 = 10 + x$
		$x^2 - 30 = 2 + x$	$x^2 - 30 = 2 + x$
		$6x + 1 = 2x - 75$	$6x + 1 = 2x - 75$
		$7 = x$	$7 = x$
		$3 = x$	$3 = x$
		$x^4 - 35 = 11 + x$	$x^4 - 35 = 11 + x$

