



Year 7 Knowledge Organiser

SOLVING EQUATIONS



Key Concept

Inverse Operations

Operation	Inverse
+	-
-	+
×	÷
÷	×
x^2	\sqrt{x}

Key Words

Unknown: A letter which represents a number we do not know the value of.

Terms: The numbers and letters in the expression or equation.

Inverse: The operation which will do the opposite.

Examples

$x + 9 = 16$ $-9 \quad -9$ $x = 7$	$x - 12 = 20$ $+12 \quad +12$ $x = 32$	$\frac{x}{3} = 5$ $\times 3 \quad \times 3$ $x = 15$	$2x + 5 = 14$ $-5 \quad -5$ $2x = 9$ $\div 2 \quad \div 2$ $x = 4.5$
--	--	--	--

$\frac{x}{4} - 2 = 4$ $+2 \quad +2$ $\frac{x}{4} = 6$ $\times 4 \quad \times 4$ $x = 24$	$2(3x + 5) = -14$ expand $6x + 10 = -14$ $-10 \quad -10$ $6x = -24$ $\div 6 \quad \div 6$ $x = -4$	$2x + 7 = 5x + 1$ $-2x$ (smallest x term) $+7 = 3x + 1$ $-1 \quad -1$ $6 = 3x$ $\div 3 \quad \div 3$ $2 = x$
--	---	--



Clip Numbers

177 – 184

Tip

Answers can be:

- Integers
- Decimals
- Fractions
- negatives

Questions

- $x + 8 = 19$
- $y - 25 = 15$
- $2y = 82$
- $\frac{t}{4} = 7$
- $\frac{p}{2} - 6 = 2$
- $3(2x - 3) = 15$
- $4x - 8 = 2x + 1$

ANSWERS: 1) $x = 11$, 2) $y = 40$, 3) $y = 41$, 4) $t = 28$, 5) $p = 16$, 6) $x = 4$, 7) $x = 4.5$