Notes:

M9

Solving Equations with Brackets

3.7

- Remember:
  - Whenever there are brackets, multiplication is involved.
  - If there is more than one term in the brackets, you have to remember to use the **distributive property.**
  - After distributing, collect like terms. = Terms that contain the same variable are added/subtracted together and constant terms are added/subtracted together.

Collecting Like Terms

$5x + 7 - x + 14$	$= 5x - x + 7 + 14 = \boxed{4x + 21}$
$x + 7 + 9x + 3x + 1$	$= x + 9x + 3x + 7 + 1 = \boxed{13x + 8}$
$4a + 7b + 9 - 3 + 1b$	$= 4a + 7b + 1b + 9 - 3 = \boxed{4a + 8b + 6}$
$0.5y + 2.5 - y + 3 + y$	$= 0.5y - y + y + 2.5 + 3 = \boxed{0.5y + 5.5}$

Solve the following equations:

L1

$2(3x + 1) + 3(x + 4) = 41$

$6x + 2 + 3x + 12 = 41$

$9x + 14 = 41$

$-14 \quad -14$

$\frac{9x}{9} = \frac{27}{9}$

$\boxed{x = 3}$

L2

$4(x-7)-2(x+5)=12$

$4x-28-2x-10=12$

$2x-38=12$

$+38 \quad +38$

$\frac{2x}{2}=\frac{50}{2}$

$\boxed{x=25}$

L3

$2x+8-4(x+5)=6(x+10)$

$2x+8-4x-20=6x+60$

$-2x-12=6x+60$

$-6x \quad -6x$

$-8x-12=60$

$+12 \quad +12$

$\frac{-8x}{-8}=\frac{72}{-8}$

$\boxed{x=-9}$

L4

LCM = 6

$\frac{6^{3}}{1}\left(\frac{8x-1}{2_{1}}\right)=\frac{(4x+9)}{6}\cdot\frac{6}{1}$

$3(8x-1)=(4x+9)1$

$24x-3=4x+9$

$-4x \quad -4x$

$20x-3=9$

$+3 \quad +3$

$\frac{20x}{20}=\frac{12}{20}$

$x=\frac{12^{3}}{20_{5}}$

$\boxed{x=\frac{3}{5}}$