9-4-12

1.6 (85.)

$9t - 7r + 2 \cdot (3r + 6t)$

$9t - 7r + 6r + 12t$

$9t + 12t = (9+12)t$
$= 21t$

$-7r + 6r$
$= +(6r - 7r)$
$= +(-r)$

$12t + (-r)$
$= \boxed{-r + 21t}$

ALPHA ORDERING

0 of 0

(1) ( )

(2) b^n

(3) a OR $\frac{a}{b}$

(4) + OR −

87.

$$15x - y - 5\cdot(3x - 2y + 5z)$$

$$15x - y - 15x + 10y - 25z$$

$(-)(-)$

$+$

$9y$

$$15x + (-y) + (-15x) + 10y + (-25z)$$

cancel to zero

solo

$$= 0 + 9y + (-25z)$$

$$= \boxed{9y - 25z}$$

(91) $5t^3 + t + 3 \cdot (t - 2t^3)$

$3t - 6t^3$
$t \quad 5t^3$
$4t - t^3$ ✓

$4t$

$5t^3 + t + 3t - 6t^3$

$-t^3$

$= 4t + (-t^3)$

$= 4t - t^3$

$= -t^3 + 4t$

descending order of powers

(92) $-(4a - 3b + 7c)$

change signs

$= -4a + 3b - 7c$

(87.) $15x - y - 5\cdot(3x - 2y + 5z)$

$15x - y - 15x + 10y - 25z$

vertical addition

x	y	z
$15x$	$-y$	$-25z$
$-15x$	$10y$	
0	$+9y$	$-25z$

(95.) $-7t^3 - t^2 - 3\cdot(5t^3 - 3t)$

change signs

$-2t^3 - t^2 - 15t^3 + 9t$

$-22t^3$ solo $9t$ solo

$= -22t^3 - t^2 + 9t$ descend powers

(98.)

$$3\cdot(6x-5)-[3\cdot(1-8x)+5]$$

$$3(6x-5)-[3-24x+5]$$

$$18x-15-[8-24x]$$

change signs

$$18x-15-8+24x$$

$-15-8$
$=+(-15)+(-8)$
$=-(23)$
$=-23$

$42x$

$$=-23+42x$$

Groups

2.1

Ex

1 → read

2 → read

3 → 11, 13, 24, 33

4 → 31

5 → 47, 51

6 → 61, 39, 53

7 → 27, 61 Again

2.2 Ex

1 → 7, 9

2 → 37

3 → 19

4 → 23 → Do at home

5 → 43, 53, 59

6 → 63

7 → 71

2.1

Ex 1 (Read $x + 6 = 13$

Is 7 a solution? yes

$7 + 6 = 13$ True

(33) $-9.7 = -4.7 + y$

$+4.7 \quad +4.7$

$= 0 + y$

$-(9.7 - 4.7) = y$

$-5 = y$

(11) $x + 10 = 21$

$-10 \quad -10$

$x = 11$

(41) $m - 2.8 = 6.3$ (8

$+2.8 \quad +2.8$

$m = 9.1$

(42) $\frac{y}{8} = 11$

clear fractions

$8 \cdot \frac{y}{8} = 8 \cdot 11$

$y = 88$

C.M. cross-multiply

$\frac{y}{8} \times \frac{11}{1} \rightarrow y \cdot 1 = 8 \cdot 11$

$y = 88$

(5.) $-\frac{x}{6} = 9$

$-9 = b$

$a = -b$ Rule

$-a = b$

$(-1)\cdot(-a) = (-1)\cdot b$

$a = -b$ QED

$-\frac{x}{6} = 9$

$\frac{x}{6} = -9$

CM:

$\frac{x}{6} = \frac{-9}{1}$

$x \cdot 1 = -9 \cdot 6$

$x = -54$

ALI (51) $\frac{x}{6} = -9$

clear fraction

$6 \cdot \frac{x}{6} = 6 \cdot (-9)$

$x = -54$

(53) $\frac{1}{9} = \frac{z}{-5}$

clear fractions and move −

$\frac{1}{9} = -\frac{z}{5}$ (move −)

$-\frac{1}{9} = \frac{z}{5}$

$-5 \cdot 1 = 9 \cdot z$ ← CM

53.

$$-5 = 9z$$

$$\frac{-5}{9} = \frac{9z}{9}$$

$$\boxed{-\frac{5}{9} = z}$$

ALT:

$$-\frac{1}{9} = \frac{z}{5}$$

clear fractions

$$-\frac{1}{9} \cdot 5 = \frac{z}{5} \cdot 5$$

$$\boxed{-\frac{5}{9} = z}$$

2.1 (27)

$$x - \frac{5}{6} = \frac{7}{8}$$

$$+\frac{5}{6} \quad +\frac{5}{6}$$

$$x = \frac{7}{8} + \frac{5}{6}$$

LCD = 24

$$x = \frac{7}{8}\cdot\frac{3}{3} + \frac{5}{6}\cdot\frac{4}{4}$$

$$x = \frac{21}{24} + \frac{20}{24}$$

$$= \frac{41}{24}$$

$\frac{24}{8} = 3$

$\frac{24}{6} = 4$

2.2

(7.) $2x + 9 = 25$

$-9 \quad -9$

$2x = 16$

$\frac{2x}{2} = \frac{16}{2}$

$x = 8$

(27.) $\frac{3}{5}t - 1 = 8$

$+1 \quad +1$

$\frac{3}{5}t = 9$

(2) $\frac{3}{5}t = 9$

ALT: mult. by reciprocal

$\frac{5}{3} \cdot \frac{3}{5} \cdot t = \frac{5}{3} \cdot 9$

$t = \frac{45}{3}$

$t = 15$

ALT C.M.

$\frac{3}{5} \cdot t = \frac{9}{1}$

$3 \cdot t = 5 \cdot 9$

$3t = 45$

$\frac{3t}{3} = \frac{45}{3}$

$t = 15$

(15

(9.)

$12 - t = 16$

$-12 \qquad -12$

$0 - t = 4$

$-t = 4$

$t = -4$

Example 3 p86

$-a = b$

use: $a = -b$

$(-1)(-t) = (-1)(4)$

$t = -4$

(23.) $5.3 + 1.2n = 1.94$

$-5.3 \qquad\qquad -5.3$

$1.2n = 1.94 - 5.3$

$1.94 - 5.3 = -(5.3 - 1.94)$

$$\begin{array}{r} 5.40 \\ -\ 1.94 \\ \hline 3.36 \end{array}$$

$1.2n = -3.36$

$\frac{1.2n}{1.2} = \frac{-3.36}{1.2}$

$n = \frac{-3.36}{1.2}$

SIDEWORK:

$1.2 \overline{)\,3.36}$

$$\begin{array}{r} 2.8 \\ 12 \overline{)\,33.6} \\ -\ 24 \\ \hline 96 \end{array}$$

$n = -2.8$

(7t.) → (5q.)

change signs

$$2\cdot(3t+1)-5=t-(t+2)$$

$$6t+2-5=t-t-2$$

$$6t-3=-2$$

$$+3 \quad +3$$

$$6t=1$$

$$\frac{6\cdot t}{6}=\frac{1}{6}$$

$$t=\frac{1}{6} \text{ solution}$$

CHECK: $2\cdot(3\cdot\frac{1}{6}+1)-5=\frac{1}{6}-(\frac{1}{6}+2)$

$2\cdot\frac{3}{2}-5=-2$ CHECK