GW RS 8.1 & 8.2

1. a) xy and 2yx

Yes they are like terms because the two variables are alike.

b) xy and $2y^2x$

They are unlike terms because the two variable are unlike. y is not the samee as y^2.

c) 1 and 2

They are like terms

d) xy^2z and xy^2

They are unlike terms because the first term has z and the second value does not have z.

2. a) ab, -17ab, 4ba, 6a, 9by

b) 1, 17, 17x, b, -257

c) xyz, xy^2z^3, ab^2b^3, xy^2z, $1 \cdot 9y^2z^3x$

d) 35t, 557, 57, -2.775, 7SA

3. a) $9 - 2x - 5 + 3 =$

$-2x - 2 + 9 = 7 - 2x$

b) $-9(3y) = -27y$

c) $(13 + 5x) - 3 =$

$13 + 15x - 3 = 15x + 10$

d) $7(y + 3) = 7y + 21$

e) $2(15x + 21y) = 30x + 42y$

f) $(9 - 2)(4) = 49 - 8$

g) $-9(2 + 9) = -18 - 99$

h) $(b - 5)(-4) = -4b + 20$

i) $6(2x + y - z) = 12x + 6y - 6z$

j) $-(m - n) = -m + n$

k) $2(m - 3) - 2m =$

$2m - 6 - 2m = -6$

l) $-5(2a - 3b) - 2(6a + b)$

$-10a + 15b - 12a - 2b$

$15b - 2b - 10a - 12a$

$13b - 22a$

4. a) $x + 9 = 7$ | $x = -2$

$x = 7 - 9$

$-2 + 9 = 7$

b) $\frac{x}{5} \times 5 = 3 \times 5$ | $\frac{15}{5} = 3$

$x = 15$

c) $\frac{7}{3} \times \frac{3}{7} = 2 \times \frac{3}{7}$ | $\frac{7}{3} \times \frac{6}{7} = 2$

$x = \frac{6}{7}$

d) $10 = -5t$ | $-5 \times -2 = 10$

$t = -2$

e) $2p + 1 = 5$ | $p = 2$

$2p = 5 - 1$ | $2 \times 2 + 1 = 5$

$\frac{2}{2}p = \frac{4}{2}$

4] $\frac{2}{-2} = \frac{-x}{}$

$-2 = x$

$x = -2$

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

$-x = 2$

5] a) $5 = \frac{4}{5}x - 3$

$\frac{4}{5}x = 5 + 3$

$\frac{5}{4} \times \frac{4}{5}x = 8 \times \frac{5}{4}$

$x = 10$

$\frac{4}{5} \times 10 - 3 =$

$8 - 3 = 5$

b) $-7 = \frac{4}{5}x - 3$

$\frac{4}{5}x = -7 + 3$

$\frac{4}{5} \times \frac{5}{4}x = -4 \times \frac{5}{4}$

$x = -5$

$\frac{4}{5} \times -5 - 3$

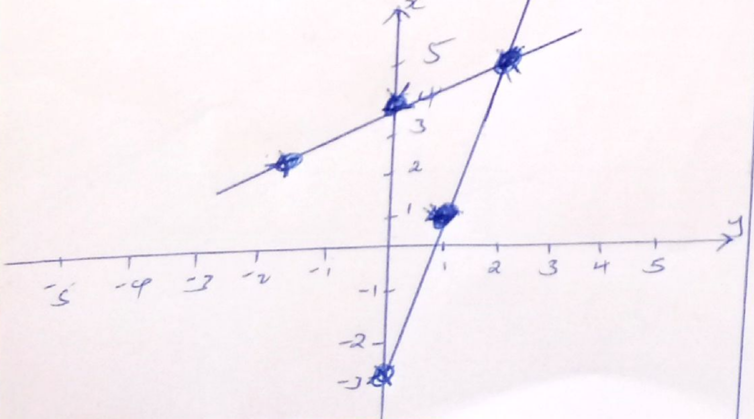
$-4 - 3 = -7$

6] $4x - 3 = \frac{1}{2}x + 4$

$y = 4x - 3 \quad y = \frac{1}{2}x + 4$

x	0	1	2
y	-3	1	5

x	0	2	-2
y	4	5	3



$x = 2$ when $y = 5$

$4x - 3 = \frac{1}{2}x + 4$

$4x - \frac{1}{2}x = 4 + 3$

$3\frac{1}{2}x = 7$

$\frac{2}{7} \times \frac{7}{2}x = 7 \times \frac{2}{7} \quad x = 2$

7] a) $5(x-1) - 2(x+3) = 4$

$5x - 5 - 2x - 6 = 4$

$5x - 2x - 11 = 4$

$3x = 4 + 11$

$\frac{3x}{3} = \frac{15}{3} \quad x = 5$

$5(5) - 5 - 2(5) - 6$

$25 - 5 - 10 - 6 =$

$20 - 10 - 6$

$10 - 6 = 4$

b] $2x + 6 = -15 - 5x$

$2x + 5x = -15 - 6$

$\frac{7x}{7} = \frac{-21}{7}$

$x = -3$

$2(-3) + 5(-3) =$

$-6 + -15 = -21$

8] $43\% - 5645$

$100 \quad \times x$

$\frac{43x}{43} = \frac{5645 \times 100}{43}$

$= 13.128$

9]

$67\% \rightarrow 2680$

$100\% \rightarrow x$

$$\frac{67x}{67} = \frac{2680 \times 100}{67}$$

$x = 4,000$

10

a) $1 = -\frac{2}{7}x - 3$

$x = -14$

Check

$-\frac{2}{7} \times -14 - 3$

$4 - 3 = 1$

b) $-5 = -\frac{2}{7}x - 3$

$x = 7$

Check

$\frac{-2}{7} \times 7 - 3$

$-2 - 3 = -5$