

Group work problems Solutions**Problem set 1**

a. $2 + (-7) = -5$

b. $-2 + (-7) = -9$

c. $-2 + 7 = 5$

d. $-\frac{7}{3} + 12 = -\frac{7}{3} + \frac{36}{3}$
 $= \frac{29}{3}$

e. $-\frac{8}{9} + \left(-\frac{5}{12}\right) = -\frac{32}{36} + \left(-\frac{15}{36}\right)$
 $= -\frac{47}{36}$

f. $\frac{7}{27} + \left(-\frac{11}{6}\right) = \frac{14}{54} + \left(-\frac{99}{54}\right)$
 $= -\frac{85}{54}$

g. $7 + (-8) + (-12) + 2 + 6 + (-1) = 15 + (-21)$
 $= -6$

h. $|2 + (-3)| + |-2 + 3| = |-1| + |1|$
 $= 1 + 1$
 $= 2$

Problem set 2

a. $2 - (-7) = 2 + 7$
 $= 9$

b. $-2 - (-7) = -2 + 7$
 $= 5$

c. $-2 - 7 = -2 + (-7)$
 $= -9$

d. $7 - 12 = 7 + (-12)$
 $= -5$

e. $-7 - (-12) = -7 + 12$
 $= 5$

f. $12 - (-7) = 12 + 7$
 $= 19$

Problem set 3a. When $a = 11$ and $b = -22$:

$$2a + b = 2(11) + (-22)$$
$$= 22 + (-22)$$
$$= 0$$

b. When $w = -10$, $x = -2$, and $y = -4$:

$$\begin{aligned}w - (x - y) &= -10 - (-2 - (-4)) \\&= -10 - (-2 + 4) \\&= -10 - 2 \\&= -12\end{aligned}$$

c. When $w = 10$, $x = 2$, and $y = 4$:

$$\begin{aligned}w - (x - y) &= 10 - (2 - 4) \\&= 10 - (-2) \\&= 10 + 2 \\&= 12\end{aligned}$$

d. When $x = 0$ and $y = 1$:

$$\begin{aligned}x^2 - 3(2y^2 - 8) &= 0^2 - 3(2 \cdot 1^2 - 8) \\&= 0 - 3(2 \cdot 1 - 8) \\&= 0 - 3(2 - 8) \\&= 0 - 3(-6) \\&= 0 - (-18) \\&= 0 + 18 \\&= 18\end{aligned}$$

Problem set 4

a. $3 + (-4x) + (-21) = -4x - 18$

b. $-y + 1 + (-72y) = -73y + 1$

c. $3(4 + 12x) - (-25x) = 12 + 36x + 25x$
 $= 61x + 12$

d. $4t + (-9) - (-3t) + (-85) = 4t + 3t + (-9) + (-85)$
 $= 7t - 94$

e. $\frac{-7}{6}w + \frac{8}{3}w = -\frac{7}{6}w + \frac{16}{6}w$
 $= \left(-\frac{7}{6} + \frac{16}{6}\right)w$
 $= \frac{9}{6}w$
 $= \frac{3}{2}w$

f. $3.9w - 17.32w + (-8) = -13.42w - 8$