Pre-Algebra
HW 1: Solutions

(1) Order from smallest to largest:

1. $-5, 2$ **A:** $-5 < 2$
2. $-20, -21, 4$ **A:** $-21 < -20 < 4$
3. $6, 10, -200, 0$ **A:** $-200 < 0 < 6 < 10$

(2) Draw number lines to represent the following, and find the answers:

1. $0 + -5$ **A:** -5
2. $-2 + -3$ **A:** -5
3. -2×-4 **A:** 8

(3) Solve:

$x = -3 + -5$ **A:** $x = -8$ $y = 5 + -3$ **A:** $y = 2$ $z = 3 + -5$ **A:** $z = -2$

$n = -3 + 2 - 6; 2 - 9$ **A:** $n = -7$ $n = -7 + 5 + -9 + 0; 5 - 16$ **A:** $n = -11$

$q = -3 \times 5$ **A:** $q = -15$ $r = 3 \times 5$ **A:** $r = 15$ $s = -3 \times -5$ **A:** $s = 15$

$x = 3 + 2 \times 4$; **MULTIPLY FIRST** $x = 3 + 8$ **A:** $x = 11$

$y = (3 + 2) \times 4$; y $= 5 \times 4$ **A:** $y = 20$

(4) Solve:

A plane carrying a sky-diver takes off from sea-level. It flies 100 m up, then dives 12 m, then climbs 25 m.

- Draw a number line to describe the airplane flight. *(see below)*

- How high above sea level is the airplane?

$$height = 100 - 12 + 25 = 125 - 12 = 113m \tag{1}$$

- If the sky-diver falls 40 m and then opens a parachute, how high above sea-level is he?

$$height = 113 - 40 = 73m \tag{2}$$

- If the sky-diver sinks 25 m into the ocean, how far is the distance between the sky-diver and the airplane?

$$distance = 113m \text{ (height of the airplane)} + 25 \text{ (depth into the ocean)} = 138m \tag{3}$$