

NS7-86 Gains and Losses

- Write a plus sign (+) if the net result is a gain. Write a minus sign (-) if the net result is a loss.
 - a gain of \$4 +
 - a loss of \$2 -
 - a gain of \$3 +
 - a gain of \$1 and a loss of \$4 -
 - a gain of \$4 and a loss of \$2 -
 - a loss of \$2 and a gain of \$3 +
 - a loss of \$5 and a gain of \$1 -
- Write each sequence of gains and losses using numbers and signs (+ and -).
 - a gain of \$3 and a loss of \$5 + 3 - 5
 - a loss of \$3 and a gain of \$7 - 3 + 7
 - a loss of \$5 and a gain of \$4 - 5 + 4
 - a gain of \$7 and a loss of \$6 + 7 - 6
 - a loss of \$6, a gain of \$9, a loss of \$3, then a gain of \$2 - 6 + 9 - 3 + 2
 - a gain of \$2, a gain of \$4, a loss of \$5, then a gain of \$1 + 2 + 4 - 5 + 1
 - a loss of \$4, a loss of \$7, a gain of \$9, then a gain of \$4 - 4 - 7 + 9 + 4
 - a gain of \$3, a loss of \$2, a loss of \$1, then a gain of \$4 + 3 - 2 - 1 + 4
- Decide whether each sequence of gains and losses is a net gain (+) or a net loss (-).
 - $+ 5 - 3$ +
 - $+ 3 - 5$ -
 - $- 4 + 3$ -
 - $- 6 + 1$ -
 - $+ 9 - 8$ +
 - $+ 6 - 9$ -
 - $- 3 + 6$ +
 - $- 1 + 34$ +
 - $- 8 + 35$ +
- How much was gained or lost overall? Use + for a gain, - for a loss, and 0 for no gain or loss.
 - $+ 6 - 5 =$ + 1
 - $- 4 + 3 =$ - 1
 - $+ 5 - 5 =$ 0
 - $- 6 + 6 =$ 0
 - $- 3 + 5 =$ + 2
 - $+ 7 - 11 =$ - 4
 - $+ 4 + 2 =$ + 6
 - $- 3 - 1 =$ - 4
 - $- 6 - 2 =$ - 8
 - $- 6 + 2 =$ - 4
 - $+ 6 + 2 =$ + 8
 - $+ 3 - 8 =$ - 5
 - $- 5 + 2 =$ - 3
 - $+ 9 - 4 =$ + 5
 - $- 5 + 7 =$ + 2
 - $- 3 + 3 =$ 0
 - $+ 8 - 87 =$ - 79
- Group the gains (+'s) together and the losses (-'s) together. Then write the total gain and the total loss.
 - $+ 4 - 3 + 2 =$ + 4 + 2 - 3
 $=$ + 6 - 3
 - $- 3 + 4 - 2 =$ - 3 + 4 - 2
 $=$ - 1
 - $- 6 + 8 - 4 =$ - 6 + 8 - 4
 $=$ - 2
 - $+ 9 - 6 + 2 =$ + 9 - 6 + 2
 $=$ + 5

BONUS $\blacktriangleright - 3 + 4 + 2 - 1 - 5 + 4 + 1 + 2 - 3 =$ _____
 $=$ _____

6. Circle all the gains first. Then group the gains (+’s) and losses (-’s). Then say how much was gained or lost overall.

a) $+7 - 6 + 2 =$ _____
 $=$ _____
 $=$ _____

b) $+5 - 7 + 4 =$ _____
 $=$ _____
 $=$ _____

c) $-5 - 1 (+3) - 2 (+4) (+6) - 4 =$ $\frac{+3 + 4 + 6 - 5 - 1 - 2 - 4}{+13 - 12}$
 $=$ $\frac{+13 - 12}{+1}$
 $=$ _____

d) $+6 + 3 - 4 - 5 - 8 + 2 - 1 =$ _____
 $=$ _____
 $=$ _____

e) $-4 + 5 + 6 - 3 - 2 + 8 - 5 + 1 - 4 =$ _____
 $=$ _____
 $=$ _____

When the same number is gained and lost, the two numbers add 0 to the expression, so we can cancel them.

7. Cancel the numbers that make 0. Then write the total gain or loss.

a) $\cancel{-3} + 7 + \cancel{3} = +7$

b) $-5 - 2 + 5 =$ _____

c) $+3 + 4 - 3 =$ _____

d) $-6 - 4 + 6 =$ _____

e) $-8 + 7 + 8 =$ _____

f) $-4 + 4 + 2 =$ _____

g) $+3 + 5 - 5 =$ _____

h) $-8 - 6 + 6 =$ _____

i) $-7 - 8 + 7 =$ _____

j) $+8 - 3 + 4 + 3 - 4 =$ _____

k) $-3 + 4 + 2 + 3 - 2 =$ _____

l) $-8 + 8 - 6 + 7 - 7 =$ _____

m) $-4 - 3 + 2 + 3 - 2 =$ _____

n) $-5 - 4 + 4 - 3 + 5 =$ _____

o) $+6 - 5 - 6 - 2 + 5 =$ _____

p) $\cancel{-3} + \cancel{2} + 4 - 5 - \cancel{2} + \cancel{6} + \cancel{3} - \cancel{6} = +4 - 5$
these cancel $= -1$

q) $-5 + 2 + 6 - 2 + 3 + 4 + 5 - 3 =$ _____
 $=$ _____

r) $+8 - 10 - 4 + 7 - 2 + 10 - 7 - 4 =$ _____
 $=$ _____

s) $-4 - 3 + 2 - 7 + 4 + 2 + 3 =$ _____
 $=$ _____

8. Find the mistake in the cancelling. Circle the two numbers that should not have been cancelled.

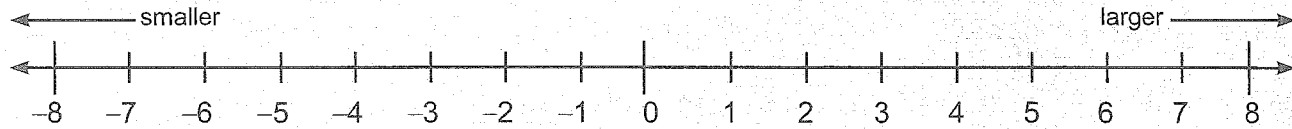
$\cancel{-3} + \cancel{4} + \cancel{2} + 6 - \cancel{2} + \cancel{3} + \cancel{4} - \cancel{7} + \cancel{7} = +6$

NS7-87 Integers

An **integer** is any one of these numbers: ..., -4, -3, -2, -1, 0, 1, 2, 3, 4, ...

Sometimes the numbers 1, 2, 3, 4, ... are written +1, +2, +3, +4, ...

An integer is **less than** another integer if it is **farther left** on the number line.



1. Write three integers that are less than zero. _____

Integers that are **greater than 0** are called **positive**. Integers that are **less than 0** are called **negative**.

2. Circle the integers that are positive. +5 8 -2 10 +3 +9 -4 -12

3. Circle the least integer in each pair.

- a) -4 or +6 b) -7 or -4 c) 9 or 7 d) -2 or -4
 e) 9 or -4 f) +7 or +2 g) -3 or -4 h) -7 or -5

4. Write < (less than) or > (greater than) in each box.

- a) +2 +7 b) -6 +5 c) 5 -3 d) -2 -4 e) -4 -10

5. Write two integers that are between -8 and -3. _____ and _____

6. Mark each integer on the number line with an X and label it with the correct letter.

A +4 B -2 C +6 D -3 E -5



7. Put the integers into the boxes in **increasing** order.

+6 -1 +10 -8 -3

8. Put the temperatures into the boxes in order from hottest to coldest.

14°C -16°C 27°C -15°C -41°C

9. a) If $0 < a < b$, mark possible places for a and b on the number line.

- b) Mark $-a$ and $-b$ on the same number line.



- c) Write the correct symbol (< or >) in each box.

If $0 < a < b$, then 0 $-a$ $-b$.