Solving Equations of the form: $x + a = b$

Recall, when adding integers if the signs:

① are the SAME add and KEEP the sign

ex(1): $5 + 11 = 16$ ex(2): $(-7) + (-2) = -9$

② are DIFFERENT subtract and take the sign of the LARGER digit.

ex(3): $(-5) + (+2) = -3$ ex(4): $(-3) + (+7) = +4$

Solve using ALGEBRA TILES

▭ variable tile

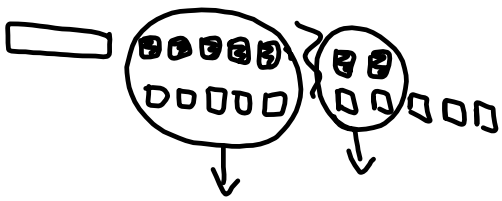
□ +1

■ -1

ex(1): $x - 5 = -2$

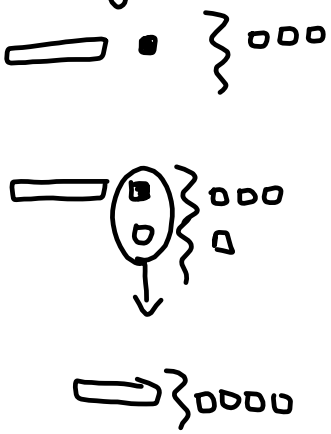
① Isolate the variable.

② Preserving equality



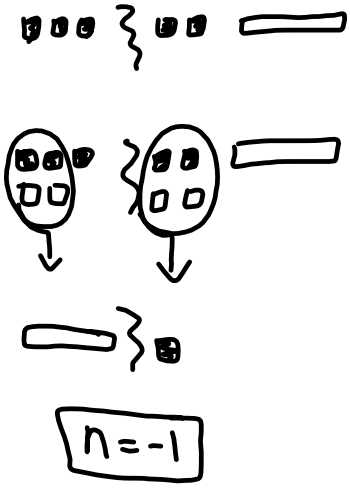
$x = 3$

ex(2): $y - 1 = 3$



$y = 4$

ex(3): $-3 = -2 + n$



$n = -1$

Solve using ALGEBRA:

ex(4): $x + 5 = -2$

$-5 \quad -5$

$x = -7$

ex(5): $y - 2 = -3$

$+2 \quad +2$

$y = -1$

ex(6): $-10 = x + 5$

$-5 \quad -5$

$x = -15$

ex(7): $8 = x + 10$

$-10 \quad -10$

$x = -2$