

MATH SKILL INFORMATION PAGE

Pre-Algebra

For use with 1-5 and 1-6

Adding & Subtracting Integers (DEALING WITH NEGATIVE SIGNS)

A. ADDING:

1. $-+-$ = a larger $-$
2. $+++$ = a larger $+$
3. If different signs, find the difference of the absolute values, and use the sign of the “larger.”
 - a. **Example:** $84 + ^-112$
 $|^-112|$ is 112, so $112 - 84 = 28$.
Since the “larger” number was negative, the answer must be negative.
The answer is $^-28$.
 - b. Hint: If the larger number is positive, make it easy on yourself: it’s just regular subtraction.
Example: $^-84 + 112 = 112 + ^-84 = 28$ (Use the commutative property to switch the numbers—but be careful to keep the signs with the numbers!)

B. SUBTRACTING:

To subtract an integer, add its opposite. $84 - 112 = 84 + ^-112$, which means you now can find the difference of the absolute values and use the sign of the “larger” number (see above, A. 3. a. for this exact problem).

KEY IDEA: Switching signs

1. “Switching signs” can greatly simplify a problem.
 - a. -112 is really $^+112$. That’s because -112 is really $^-+112$. Math convention says we don’t have to show the positive sign. “Switching signs” means that the two signs with a number may be interchanged—as long as they still stay with the number! So, $^-+112 = ^+112$.
 - b. This becomes useful in certain problems. Follow this example: $-84 - 112 = -84 + ^-112$ Now you’re adding two negatives, so you add them as if they were positive, and then the answer must be negative.
2. Remember that two negative signs make a positive: $^-112$ is $^+112$
This can be very helpful in some problems, such as:
 $-84 - ^-112 = -84 + ^+112$ Now you can use the commutative property and switch the numbers (keeping the signs with the numbers), and you have $112 - 84$, which is much easier.