Same Change, Same Order

IN02-V1 · storyboard · IN02 Add and subtract. Read each picture with its sentences.

Picture 1

Solve $x + 4 > 1$.

$x + 4 - 4 > 1 - 4$ take 4 from both sides

$\boxed{x > -3}$

1. Solve x plus 4 is greater than 1.
2. Take 4 from both sides.
3. Both sides move down by the same amount, so the order stays the same.
4. So x is greater than negative 3.
5. The answer is negative, but the sign did not flip: subtracting never flips it.

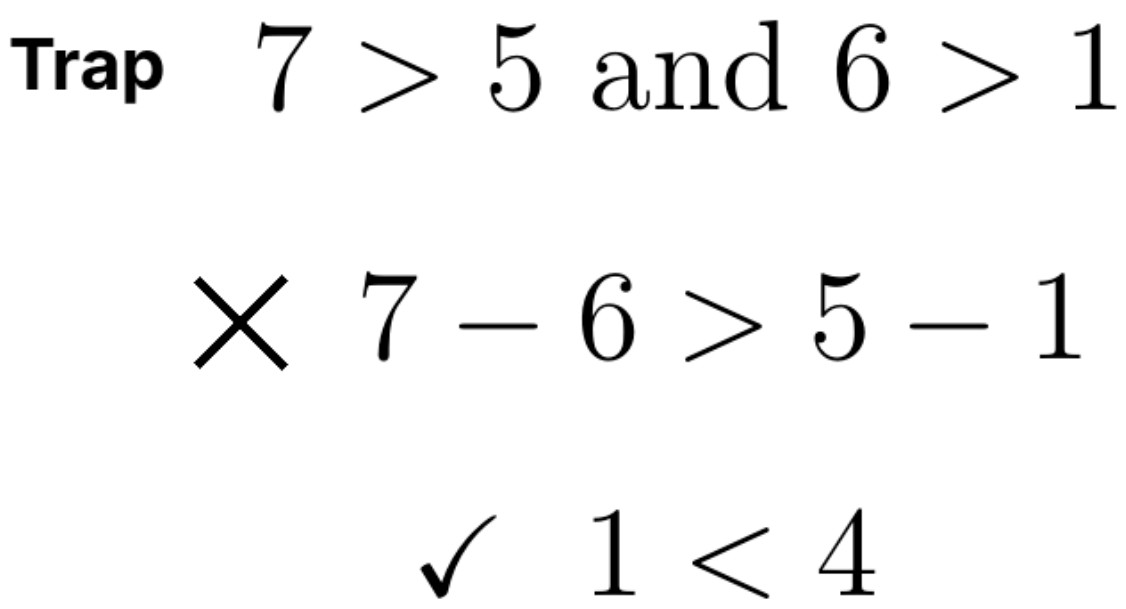
Picture 2

$a > 3$ and $b > 5$. What can you say about $a + b$?

$\boxed{a + b > 3 + 5 = 8}$ add them

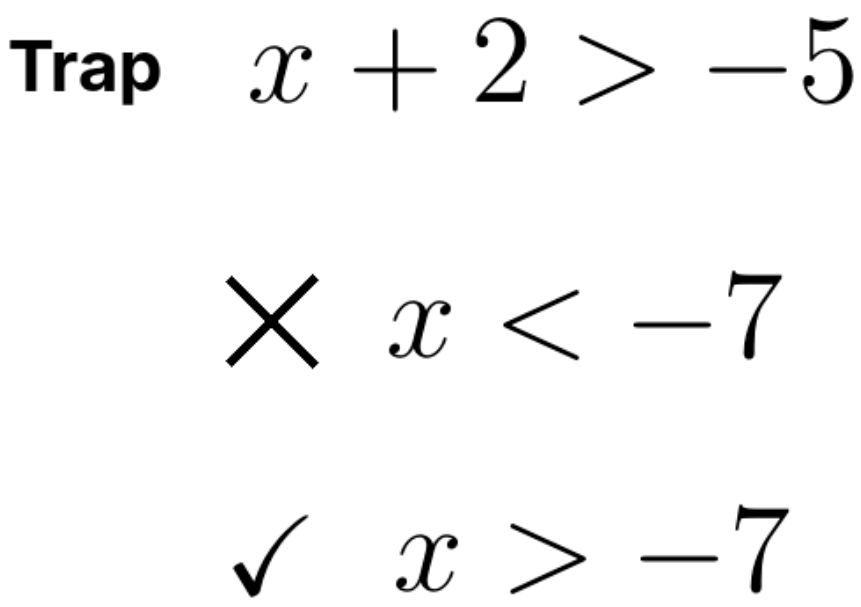
6. a is greater than 3, and b is greater than 5.
7. What can you say about a plus b?
8. Add them: they point the same way, so a plus b is greater than 3 plus 5, which is 8.

Picture 3



9. Watch for the trap: you can't subtract them.
10. 7 is greater than 5, and 6 is greater than 1.
11. But 7 minus 6 is 1, 5 minus 1 is 4, and 1 is less than 4.

Picture 4



12. Another trap: a negative number on the right doesn't flip anything.
13. Take 2 from both sides and keep the sign: x is greater than negative 7.