(TWO+TWO=FOUR) NRich – Algebra (TWO+TWO

For this problem, you would need to keep trying different numbers.

For each combination, "F" only can be 1. That because none of the one digit number plus a one digit number can't be over 19. So all number can't be 1 except for "F."

6+6=12, so "T" only can be 6. 2+2=4 so "R" is 4. "W" can't be 1 because "F" is 1. "W" also can't be 2 because "O" is 2. "W" can't be 3 because 3+3=6, but T=6. "W" can't be 4 because "R" is 4. "W" can't be 5 and after 5. Because, they would add one to "T." That means "O" can't be 2!

	6	X	2
	6	X	2
1	2	X	4

O=2 NO! ⊗

Now lets try "O" = 3. 3+3=6. and "T" only can be 6. That's because 6+6=12, but "U" can give "T" 1. That means 6+6+1=13. But "R" is 6. If "T" can't be 6, the whole thing will not work.

	X	X	3
	X	X	3
1	3	X	6

O = 3 ⊗ NO!

Now, like a growing pattern, we can try 4=O. Let's see... 4+4=8 so "R" is 8. 7+7=14 so "T" is 7. "W" can't be one because "F" is 1. It also can't be 2 because 2+2=4 that means "U" must be 4. But "O" = 4. Finally, lets try 3. 3+3=6 and none of the numbers are 6. So it works!

	7	3	4
+	7	3	4
1	4	6	8

O = 4 ✓ Yes!

Algebra – NRich (TWO+TWO=FOUR)

Which gives a extra 1 to "W." That also means "R" equals "O." 7+7=14. But, wait, I thought "O" equal 5? "T" is 7 because "U" can give a extra 1 to "T" which means that "O" can still be 5. "W" can't be 1-4, because it doesn't give a extra 1 to "T". It can't be "5" because "O" is 5. If "W" is "6", 6+6=12, Which gives a extra one and none of the numbers are... Wait I forgot the extra one! 6+6=12+1=13. And it still works.

	7	6	5
	7	6	5
1	5	3	0

O = 5 ✓

Ok, Lets try O=6. 6+6=12 so remember the extra 1. 8+8=16 so "T" is 8. "O" still can't be 1 because as I said, "F" is 1. "W" cannot be "2" because "R" is 2. Can "W" be 3? Yes! None of the numbers is 3 and it doesn't gives a extra 1. Wait, but "W" also can be 4! Some combinations can have more than 1 that works.

	8	3	6
+	8	3	6
1	6	7	2

O = 6 ✓
W = 3

	8	4	6
+	8	4	6
1	8	9	2

O = 6
W = 4

Now let's try O=7. 7+7=14. 8+8=16. "T"=8. But wait, 8+8 only equal 16! But "F" and "O" is 17! "T" is 8 because "U" must give a extra 1 to "F" and "O"! Which means it is 8+8+1=17! "W" can't be 1-4 because they doesn't gives a extra 1 to "F" and "O". 5 doesn't work because 5+5 add the extra 1=11 but "F" is already 1. 6 works because 6+6=12 and none of the numbers are 2. Also it gives a extra 1. So it works!

	8	6	7
+	8	6	7
1	7	3	4

Let's try O=8! 8+8=16 so "R" is 6! "T" must be 9 because only 9+9=18. "W" can be 2 because 2+2 add the extra 1 = 5. None of the are two and it gives a extra 1 so it works! "W" also can be 3! 3+3=6, but remember the extra 1! 3+3+1=6 so it works!

	9	2	8
+	4	9	2	8
1	8	5	6

	9	3	8
+	9	3	8
1	8	7	6

None of the numbers is "O" so the possibility of the numbers being O doesn't work. In the grid it clearly shows that "F" only can be 1. It also says that only "W" can be 2. "W" and "U" can also can be 3. "W", "O" and "R" can be 4. "O" and "U" can be 5. "W", "O", "U", and "R" can be 6. "T", "O" and "U" can be 7. "T", "O" and "R" can be 8. "T" and "U" can be 9. I think that there is no patterns as you see on the grid. Thats why you need to keep trying different numbers.

	T	W	O	F	U	R
0	X	X	X	X	X	X
1	X	X	X	✓	X	X
2	X	✓	X	X	X	X
3	X	X	✓	X	X	✓	X
4	X	✓	✓	X	X	✓
5	X	X	✓	X	✓	X
6	X	✓	✓	X	✓	✓
7	✓	X	✓	X	✓	X
8	✓	X	✓	X	X	✓
9	✓	X	X	X	✓	X

O	U	R				
	P	R	O	G	E	S	S

Now, Finally, let's try O=9. 9+9=18. That means "T" cannot be 9. If it can't be 9, it only can be 8. 8+8=16. You must give a extra 2 but it is impossible.

	X	9
	X	9
1	8	6