

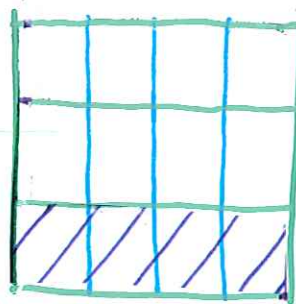
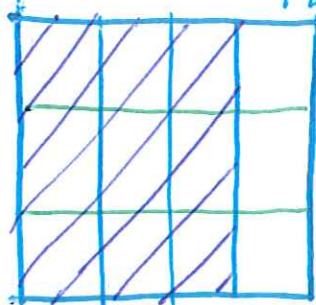
Dr. Taylor's Pedagogical Notes

— SUBTRACTING FRACTIONS —

COMBINE: $\frac{3}{4} - \frac{1}{3}$

- ① USE THE "AREA" MODEL TO ANALYZE. I BUILD TWO BOXES (SQUARES) - ONE FOR EACH FRACTION. THEN PARTITION THEM BASED UPON THE DENOMINATORS.

→ NOTE: PARTITION ONE VERTICALLY AND THE OTHER HORIZONTALLY.



- ② LIGHTLY SHADE THE STRIPS FOR EACH NUMERATOR IN THE APPROPRIATE BOX.

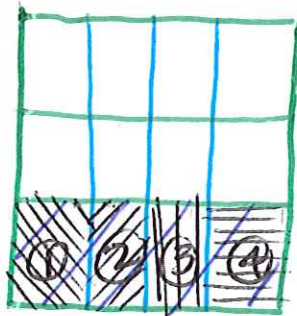
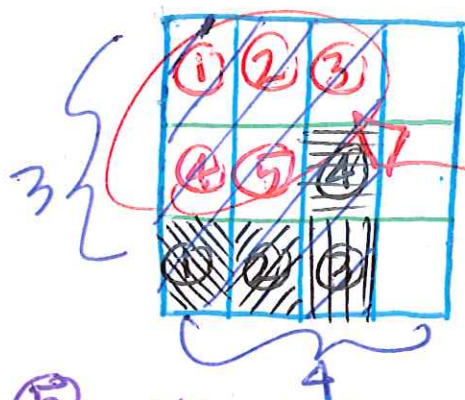
- ③ TRANSFER THE LINES FROM EACH BOX OVER TO THE OTHER. WHEN YOU DO THIS YOU BASICALLY CREATE 2 BOXES WITH AN EQUAL NUMBER OF SMALL RECTANGLES (OR SQUARES), THIS ACTUALLY REPRESENTS THE "COMMON DENOMINATOR" CONCEPT WHICH CAN BE EXPLORED AT A LATER DATE.

★ ELEMENTARY INTRODUCTION. —
— IN ELEMENTARY RATHER THAN SAYING "SUBTRACT" OR "COMBINE" I COMPARE
eg: HOW MANY MORE...

Dr. Taylor's Pedagogical Notes

$$\frac{3}{4} - \frac{1}{3} \text{ CONTINUED...}$$

- ④ NEXT WE CAN COUNT ALL THE SQUARES THAT ARE "LEFT OVER" AFTER WE LOOK FOR 1:1 CORRESPONDANCE OF SQUARES AND DARKEN THEM IN TO REPRESENT A FORM OF "CANCELLATION" SO TO SPEAK.



IN THIS CASE 4 LITTLE SQUARES CORRESPOND TO ONE ANOTHER IN EACH BOX

- ⑤ AFTER COUNTING THE "LEFT OVER" SQUARES, THE "LEFT OVERS" ARE IN THE "LEFT" BOX THEREFORE THIS IS A POSITIVE VALUE. IF THEY WERE IN THE "RIGHT" BOX THE VALUE WOULD BE "NEGATIVE".

- ⑥ BUILD THE FRACTION (SIMPLIFY AS NEEDED)

NUMERATOR: "5"

DENOMINATOR: (3x4) "12"

FINAL ANSWER: $\frac{5}{12}$