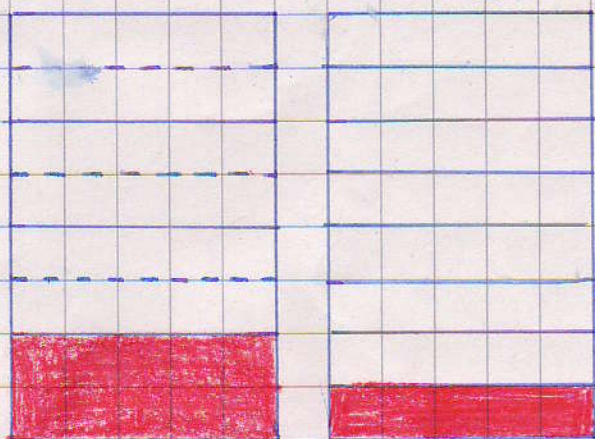


Mixing Paints

Can A

Can B

1:3

↓
2:6

1:7

↓
1:7

You might think that $1:3 + 1:7 = 2:10$ and this would equal $1:5$, however this diagram shows you that the ratios would give you $3:13$.

Now that I have changed the ratios so they both add up to 8, it will be easier to add the ratios together.

c a n s	A 2:6		B 1:7	
	R	W	R	W
1	2*	6*	1	7
2	4	12	2	14*
3	6	18	3	21
4	8	24	4	28
5	10	30	5	35
6	12	36*	6*	42
7	14	42	7	49
8	16	48	8	56
9	18	54	9	63

← This table shows how many red and white parts would be mixed together for a different number of cans. The table shows information about the 2 types of paint.

By adding together the ratios of a combination of different cans and then simplifying the ratio, I can figure out the answer to the problem.

Result

$$1:4 \rightarrow 3 \text{ cans of A} + 2 \text{ cans of B} = 8:32 \rightarrow 1:4$$

$$1:5 \rightarrow 1 \text{ can of A} + 2 \text{ cans of B} = 4:20 \rightarrow 1:5$$

$$1:6 \rightarrow 1 \text{ can of A} + 6 \text{ cans of B} = 8:48 \rightarrow 1:6$$

I only go upto 9 because I do not think the answer will be any higher than 9.