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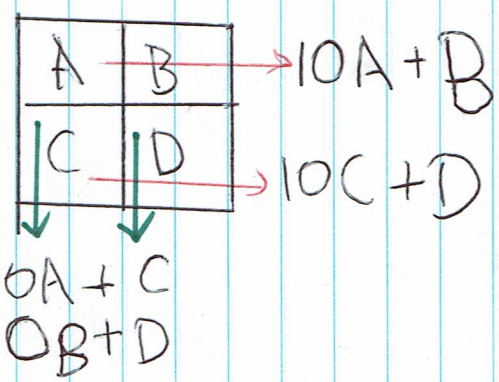
Add to 200

Conditions: $A \neq B \neq C \neq D > 0$ (no repeat, whole numbers)



Total: $20A + 11B + 11C + 2D = 200$ — (1)

E E ∴ 200 is E

$20A + 11(B+C) + 2D = 200$

E E

O = odd

E = even

∴ B+C must be E

Simplify: $\longrightarrow 2(10A+D) + 11(B+C) = 200$

$2(10A+D) = 200 - 11(B+C)$

$10A+D = \dfrac{200 - 11(B+C)}{2}$ ---------- (1a)

in Excel: $[200 - 11(B+C)] \div 2$

$200 - 11(B+C) > 0$

$200 > 11(B+C)$

$(B+C) < 200 \div 11$

$(B+C) < 18$ ---- (2)

$B+C > 0$ $B \neq C$, ∴ $B+C \geq 3$ B+C is E means $B+C \geq 4$ ---- (3)

Conclusions

A, B, C, D solutions shown in Table 3. Only those with the *italic* font show the correct solutions.