

What Number Can We Make?



total 16: $\boxed{1, 3, 5, 7}$ $\boxed{5, 5, 5, 1}$ $\boxed{7, 7, 1, 1}$

total 25: Sum of 6 odd numbers is even.



Cannot make 25.



③ numbers: 3, 6, 9, ..., 30

$$3K, K=1, \dots, 10$$

④ numbers:

$$3K+1, K=1, \dots, 13$$

⑤ numbers:

$$3K+2, K=1, \dots, 16$$

⑥ numbers:

$$3K+3, K=1, \dots, 19$$

⑦ numbers:

$$3K+4, K=1, \dots, 22$$

⑨ numbers:

$$3K+96, K=1, \dots, 298$$

⑩ numbers:

$$3K+97, K=1, \dots, 301$$

① ⑦ ⑮ ⑱

③ numbers: $6K+3, K=0, \dots, 9$

④ numbers: $6K+4, K=0, \dots, 12$

⑤ numbers: $6K+5, K=0, \dots, 15$

⑥ numbers: $6K, K=1, \dots, 19$

⑩ numbers: $6K+20, K=0, \dots, 60$

⑨⑨ numbers: $6K+99, K=0, \dots, 297$

⑩⑩ numbers: $6K+100, K=0, \dots, 300$

③ ⑦ ⑪ ⑮ (numbers $4J-1, J=1, \dots, 4$)

412 is multiple of 4

multiple of 4 can be made from 4, 8, 12, 16, 20, 24, 28, 32, ... numbers



Cannot make 412 by choosing 30 numbers.

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