

20S-MATH61-2 Quiz 4

CHARLES ZHANG

TOTAL POINTS

6 / 10

QUESTION 1

1 Question 1 **6 / 10**

- **0 pts** Correct
- **0 pts** Different problem
- ✓ - **4 pts** Incorrect/Incomplete/Conceptual error.
- **1 pts** Minor mistake.
- AND does not represent Union.

"... that are multiples of n AND m ..."

Q4D) How many integers $[504, 2020]$ are multiples of 7 and 11?

7: $[0 \rightarrow 2020]$ there are 288

$[0 \rightarrow 504]$ there are 72

$$288 - 71 = 217 \text{ from } [504, 2020]$$

$$\begin{array}{r} 288 \\ 7 \overline{) 2020} \\ \underline{-1464} \\ 62 \\ \underline{-560} \\ 20 \end{array}$$

$$\begin{array}{r} 72 \\ 7 \overline{) 504} \\ \underline{-496} \\ 14 \end{array}$$

11: $[0 \rightarrow 2020]$ there are 183

$[0 \rightarrow 504]$ there are 45

$$183 - 45 = 138 \text{ from } [504, 2020]$$

$$\begin{array}{r} 183 \\ 11 \overline{) 2020} \\ \underline{-1166} \\ 92 \\ \underline{-880} \\ 40 \end{array}$$

$$\begin{array}{r} 45 \\ 11 \overline{) 504} \\ \underline{-446} \\ 64 \end{array}$$

77: $[0 \rightarrow 2020]$ there are 26

$[0 \rightarrow 504]$ there are 6

$$26 - 6 = 20 \text{ from } [504, 2020]$$

$$\begin{array}{r} 26 \\ 77 \overline{) 2020} \\ \underline{-1540} \\ 480 \end{array}$$

$$\begin{array}{r} 6 \\ 77 \overline{) 504} \end{array}$$

$$217 + 138 - 20 = \boxed{335 \text{ integers}}$$

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