

Name Prof. M

Mathematics 2602

Quiz 6

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1. How many numbers between 1 and 100 are divisible by 7 and/or 11?

$$\left\lfloor \frac{100}{7} \right\rfloor + \left\lfloor \frac{100}{11} \right\rfloor - \left\lfloor \frac{100}{77} \right\rfloor$$
$$= 14 + 9 - 1 = 22$$

2. How many four digit numbers (1000-9999) have exactly three 9's?

$$3 \cdot 9 + 8 = 35$$

3. You have a truck full of cans of Coca Cola, Moxie, and Cheerwine. You blindly pull some cans out. How many cans do you need to pull to ensure that you get six of one kind?

Smallest  $N$  so  $\left\lfloor \frac{N}{3} \right\rfloor = 6$

$$N = 16.$$