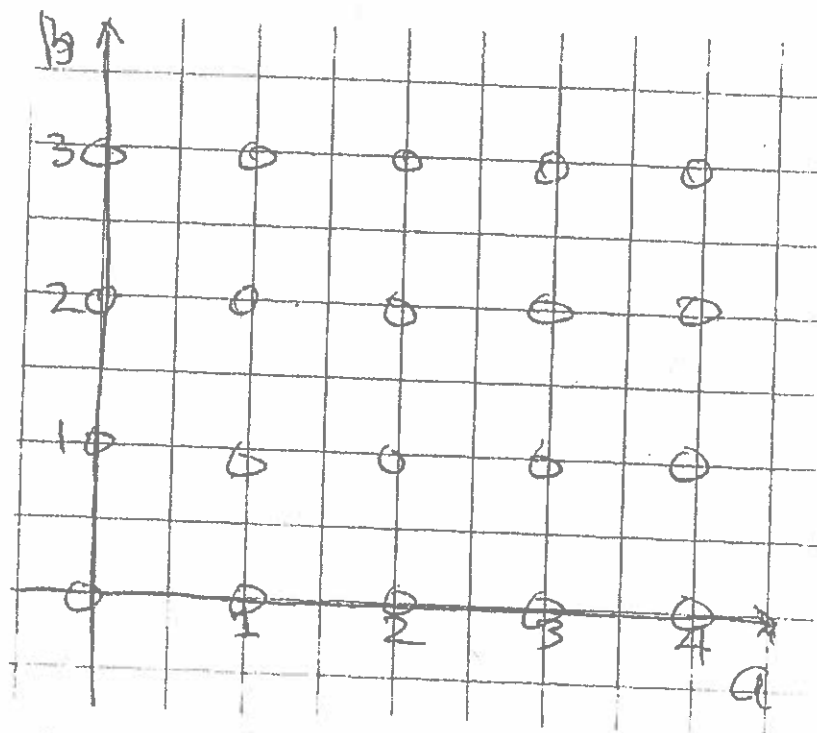


Math 417 Worksheet For a class, Monday Aug 1/30/18

Work alone, or with your friends! I'll talk about this when class resumes.

1a. Let $m = 2^2 \cdot 3^3$
 $n = 2^3 \cdot 3$

Locate the factors of m and n on this chart, with $2^a 3^b \leftrightarrow (a, b)$



1b. What is $g = \gcd(m, n)$? Locate the factors of g above.

2a. Suppose $\gcd(r, s) = 2$ and $\gcd(r, t) = 3$.

Explain why $\gcd(t, s) = 1$ and $\gcd(s, t) = 1$

2b. Give an example of integers r, s, t so that

$$\gcd(r, s) = 2, \gcd(r, t) = 3, \gcd(s, t) = 5 \cdot 7 = 35$$

3. Suppose G is a group of order 4 and $x \in G \Rightarrow x^2 = e$.

Complete the following multiplication table.

x	e	x	y	z
e	e	x	y	z
x	x	e	-	-
y	y	-	e	-
z	z	-	-	e

Remember that each row (and each column) must be a permutation of $\{e, x, y, z\}$.