

Math 4b. HW 4.

#3 $GCF(8, 48) = 8$, $8 = 2 \cdot 2 \cdot 2$

a. $48 = 6 \cdot 8 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3$

b. $GCF(7, 15) = 1$. These two numbers do not have common factors, but 1.

c. $GCF(20, 1000) = 20$

$20 = 4 \cdot 5 = 2 \cdot 2 \cdot 5$

$1000 = 20 \cdot 50 = 2 \cdot 2 \cdot 5 \cdot 2 \cdot 5 \cdot 5$

d. $GCF(23, 69) = 23$. 23 is a prime number
 $69 = 3 \cdot 23$.

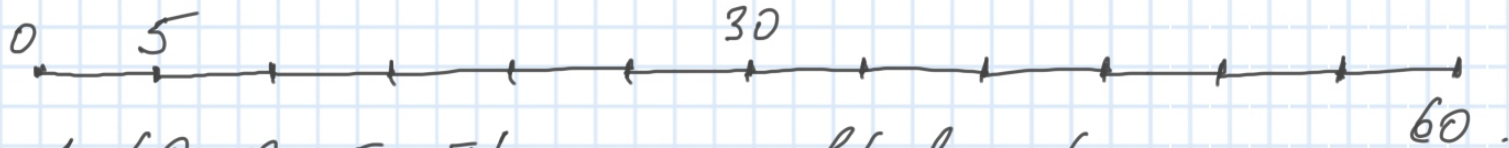
e. $GCF(380, 381) = 1$.

Two consecutive natural numbers are mutually prime.

f. $GCF(14, 25) = 1$.

$14 = 2 \cdot 7$, $25 = 5 \cdot 5$. They are mutually prime.

6.



1. $60 \div 12 = 5$. They are multiples of 5,

2. first is 5

4. $5 \cdot 20 = 100$.

3. 6th $5 \cdot 6 = 30$

8. $LCM(28, 35) = 2 \cdot 2 \cdot 7 \cdot 5 = 28 \cdot 5 = 140.$

a.

$$28 = 2 \cdot 2 \cdot 7$$

$$35 = 5 \cdot 7$$

b. $LCM(16, 56) = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 7 = 16 \cdot 7 = 112$

$$16 = 2 \cdot 2 \cdot 2 \cdot 2$$

$$56 = 7 \cdot 8 = 2 \cdot 2 \cdot 2 \cdot 7.$$

c. $LCM(21, 100) = 3 \cdot 7 \cdot 2 \cdot 2 \cdot 5 \cdot 5 = 21 \cdot 100 = 2100.$

$$21 = 3 \cdot 7$$

$$100 = 2 \cdot 2 \cdot 5 \cdot 5$$

These two numbers are mutually prime.

d. $LCM(18, 62) = 2 \cdot 3 \cdot 3 \cdot 31 = 18 \cdot 31 = 558$

$$18 = 2 \cdot 3 \cdot 3$$

$$62 = 2 \cdot 31$$

#11. $LCM(10, 12, 15) = 2 \cdot 5 \cdot 2 \cdot 3 = 60.$

$$10 = 2 \cdot 5$$

$$12 = 2 \cdot 2 \cdot 3$$

$$15 = 3 \cdot 5$$

$$60 : 10 = 6 \text{ p. of knives}$$

$$60 : 12 = 5 \text{ p. of forks}$$

$$60 : 15 = 4 \text{ p. of spoons.}$$

60 knives, 60 forks, 60 spoons.

#14.

$$418 \mid 2$$

$$209 \mid 11$$

$$11 \mid 19$$

$$1$$

$$456 \mid 2$$

$$228 \mid 2$$

$$114 \mid 2$$

$$57 \mid 3$$

$$19 \mid 19$$

$$1$$

$$494 \mid 2$$

$$247 \mid 13$$

$$19 \mid 19$$

$$1$$

$$418 = 2 \cdot 11 \cdot 19$$

$$456 = 2 \cdot 2 \cdot 2 \cdot 3 \cdot 19$$

$$494 = 2 \cdot 13 \cdot 19$$

$$GCF(418, 456, 494) = 2 \cdot 19 = 38.$$

if there are 38 seats in each car

$$418 = 2 \cdot 11 \cdot 19 \quad \text{has 11 cars}$$

$$456 = 2 \cdot 2 \cdot 2 \cdot 3 \cdot 19 \quad \text{has 12 cars}$$

$$494 = 2 \cdot 13 \cdot 19 \quad \text{has 13 cars}$$

#17 seems to be a typo!

#20.

a. 318^*

$3+1+8=12$ if 0, 3, 6, or 9 is placed instead of * the number will be div. by 3.

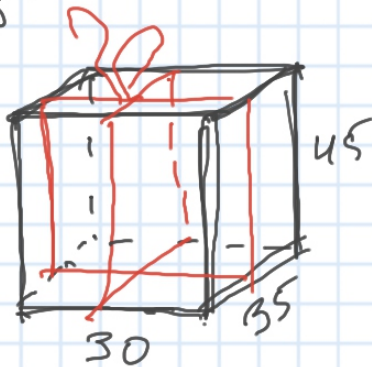
b. $\times 56$

$$316 = 11 \quad 1, 4, 7$$

c. 48×25

$4+8+2+5=19 \rightarrow 2, 5, 8.$

#25



$$30 \cdot 2 + 35 \cdot 2 + 4 \cdot 45 + 90 = 60 + 70 + 180 + 90$$

$$= 130 + 180 + 90 = 400 \text{ cm} = 4 \text{ m}$$

#32

8	3	4
1	5	9
6	7	2

$1+2+3+4+5+6+7+8+9=45$

$45:3=15$

8	1	6
3	5	7
4	9	2

2, 4, 6, 8