

# Math 4a. HW 4

#1.  $66 = 6 \cdot 11 = 2 \cdot 3 \cdot 11$

or

66		2
33		3
11		11
1		

$$28 = 2 \cdot 14 = 2 \cdot 2 \cdot 7$$

$$128 = 2 \cdot 64 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$$

$$555 = 5 \cdot 111 = 3 \cdot 5 \cdot 37$$

$$\begin{array}{r|l} 1233 & 3 \\ 411 & 3 \\ 137 & 137 \\ 3 & \end{array}$$

$$1233 = 3 \cdot 3 \cdot 137.$$

# 1. a.  $75 = 3 \cdot 5 \cdot 5$

$$135 = 3 \cdot 3 \cdot 3 \cdot 5$$

$$\text{GCF}(75, 135) = 15$$

b.  $180 = 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5$

$$210 = 2 \cdot 3 \cdot 5 \cdot 7$$

$$\text{GCF}(180, 210) = 2 \cdot 3 \cdot 5 = 30$$

c.  $117 = 3 \cdot 3 \cdot 3 \cdot 9$

$$195 = 3 \cdot 5 \cdot 13$$

$$312 = 2 \cdot 2 \cdot 2 \cdot 3 \cdot 13$$

$$\text{GCF}(117, 195, 312) = 3$$

#2.

a.  $28 = 2 \cdot 2 \cdot 7$

$35 = 5 \cdot 7$

$\text{LCM}(28, 35) = 2 \cdot 2 \cdot 7 \cdot 5 = 140$

b.  $16 = 2 \cdot 2 \cdot 2 \cdot 2$

$56 = 2 \cdot 2 \cdot 2 \cdot 7$

$\text{LCM}(16, 56) = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 7 = 112$

c.  $72 = 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3$

$90 = 2 \cdot 3 \cdot 3 \cdot 5$

$96 = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3$

$\text{LCM} = 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 3 \cdot 3 \cdot 5 = 96 \cdot 3 \cdot 5 = 1440$

#3.  $87 = 3 \cdot 29$ .

3 and 29 are both prime numbers.

So, there are 29 students in the class.

#4.  $60 : 12 = 5$

First is 5, sixth is  $5 \cdot 6 = 30$ ,  
+ twentieth  $20 \cdot 5 = 100$

#5.

a.  $25 + 35 + 15 + 45$  is divisible by 5, each term is  
divisible by 5.

$$5: 5 + 5 \cdot 7 + 5 \cdot 3 + 5 \cdot 9 = \underline{5} (5 + 7 + 3 + 9)$$

b.  $14 + 21 + 63 + 49 = 2 \cdot 7 + 3 \cdot 7 + 9 \cdot 7 + 7 \cdot 7 = \underline{7} (2 + 3 + 9 + 7)$

yes, it's divisible by 7.

c.  $18 + 36 + 55 + 90 = 2 \cdot 9 + 4 \cdot 9 + 55 + 9 \cdot 10$ .  
 is not divisible by 9

#6.  $55 : 12 = 4 \text{ R } 7$  5 vans are needed.

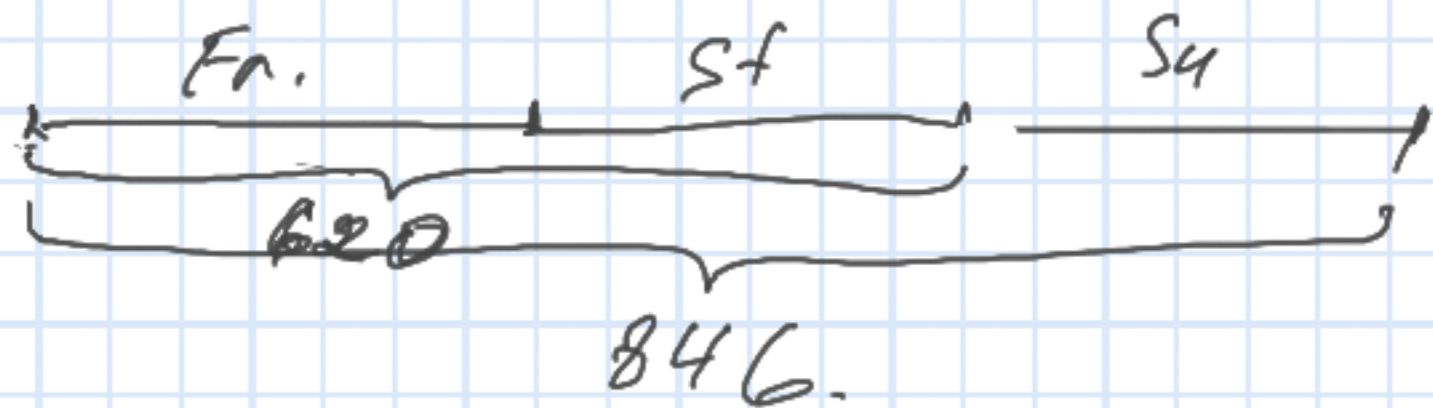
#7. There are 31 days in January.

$31 : 7 = 4 \text{ R } 3$ .

January 1, 2, and 3 can't fall on either Monday or Friday, otherwise Jan. 29, 30, and 31 will become the fifth Friday or fifth Monday.

First Jan. should be Tuesday.

#8.



1.  $846 - 620 = 226$  (Su)

2.  $226 - 58 = 173$  (St)

3.  $620 - 173 = 447$  (Fr)

