

Do not use a calculator on this quiz.

Math 141 Spring 2004

NAME: Answers

Quiz #5

sections 4.1-4.3 (5-1) 15

Seat: \_\_\_\_\_

**For the mental math and estimation use the methods listed. Show your work to illustrate each method. (Do not use regular "paper & pencil" algorithms.)**

2pts

1. Do this subtraction mentally using equal additions method.

Show your thoughts to illustrate this method.

$$\begin{array}{r} 942 + 5 \Rightarrow 947 \\ - 895 + 5 \Rightarrow 900 \\ \hline 47 \end{array}$$

4pts

2. Estimate 7815 + 1739 using these two front-end methods:

a. range

Low	7000	7815	(high)	8000
	1000	1739		2000
	<hr/>			
	8000		10,000	

b. one-column with adjustment.

the low of the range method.  
 $\begin{array}{r} 7000 \\ + 1000 \\ \hline 8000 \end{array}$  then adjust by seeing approximately how much more you have.  
 $(815 + 739) \approx 1500$

2pts

3. Estimate the following using compatible numbers.

$$4352 \div 63$$

$$4200 \div 60 = 70$$

"friendly"  
 Because of multiplication facts

So  $8000 + 1500 = 9500$

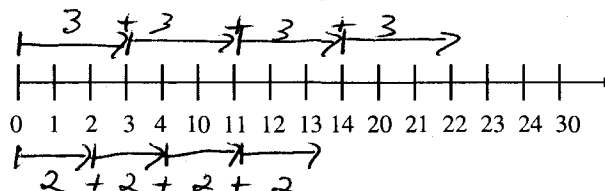
4pts

4. Multiply, in base 5, using the lattice method. (May use the standard method to check your work.)

	4	2	3	
2	1/3	0/4	1/1	2
1	2/2	1/1	1/4	3
	3	3	4	

$$\begin{array}{r} 423 \\ \times 23 \\ \hline 2324 \\ 1401 \\ \hline 21334 \end{array}$$

multiple of 3 →  
 multiples of 2 →



3pts

5. Without doing any division, answer the following question:

Does  $3 \mid 25743$ ? yes What is the divisibility test for three?

Add all the digits. The sum of all digits is divisible by 3.

$$(2+5+7+4+3) = 21$$

$$3 \mid 21$$

3 "divides" 21

section 5.1