



**Kentucky Council  
of  
Teachers  
of  
Mathematics**

**May, 2004**



Congratulations to KCTM President Lori Durham and KCTM Past President Keith Durham on the birth of their son, Evan!

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## Math in the Everyday World



Begin this unit on volume and surface area by having students bring in various boxes or containers from home. Some examples are: cracker boxes, Pringles cans, the new Doritos can (shaped like a triangular prism), macaroni and cheese boxes, etc.

### **Materials:**

Various cardboard containers (1 per student)

At least 5-6 toilet paper or paper towel rolls, each cut to a different length

Scissors

Chart or poster paper

Markers

Rulers

### **Procedures:**

1. Begin by placing students in groups of 5 or 6. Each student should have a container that they have brought from home. Many students will bring in extra in case someone forgets theirs.
2. Explain that students will be using what they know about finding area of different polygons to find the surface area of a 3 dimensional figure. You may also use this as a time to introduce finding volume. Explain what surface area is using examples.
3. Provide each group with chart paper, scissors, markers and rulers. Each person should have his/her own chart paper.
4. Students will work cooperatively to complete the following tasks.
  - Students should cut their containers to form a net. They should only need to make one cut. The ends can typically just be opened up. Demonstrate using your own box.
  - Students should trace their net onto the chart paper provided for them.
  - Have students then tape the box or container back together and bring it to the front of the room.
  - Next, students are to divide their nets into sections according to top, bottom, sides, front and back, (preferably rectangles). They should calculate the area of each section and write the area in the spaces provided. Students that do not have rectangular prisms will have a little more challenging time of this activity. For example, when working with the Pringles can (cylinder), students should cut away the bottom and slice the curved edge in half to form one large rectangle. They would then need to calculate the area of the circles and multiply by 2 for the top and bottom. Encourage students to try and do their calculations on their own, but reinforce that their group members are available for help or input.
  - Students should then show how they came up with a total for the surface area of their figures.
  - Students should title their chart paper with the name of their figure and write their names on them as well.
  - Finally, when the class has finished, hang the charts on the wall and have students try and match the correct net with the correct package or container. You can give a prize to students who guess them all correctly. To do this, number each container and have students write the correct

number by the correct name on the chart paper. Go around one container at a time and match them up to score. Students love this activity.

- Finally, if you are going to assess students formally, measure each and check each student's calculations. You could also switch them among groups and let the students check each other.

This is a great activity and students really seem to grasp the concept. It will also help them to practice analyzing nets. Good Luck! I hope you enjoy this exercise as much as I do.

This activity will take 1-2 class periods and is well worth your time!

*Hello Fellow Mathematicians!*

*My name is Leslie Robertson and I am your new Elementary Vice-President. I would be happy to assist you in anyway possible. My new webpage will be up and running soon, but until then you may reach me by email. I am a 5<sup>th</sup> grade teacher at Anne Mason Elementary in Scott County. I have included a lesson that I find successful in teaching about surface area. I hope you can use it. Feel free to adapt it to meet your age group and outcomes.*

Submitted by:

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## "...And, They're Off!" Exploring Probability with the TI-73!

During the month of May, teachers can make connections to the Kentucky Derby by engaging students in an activity that simulates a horse race. Experimental probability is explored by rolling 2 number cubes. The sum of the number cubes is the position of the winning horse. Students should predict what horse (position 2 to 12) they think will win after 24 races (rolls). Using a graphing calculator, students collect data for 24 races and compare the experimental results to their predictions. The theoretical probability of obtaining the sum of 2 number cubes can be compared to the experimental results.



With the TI-73 graphing calculator, students simulate a race by generating the sum of 2 number cubes. To simulate the sum of the roll of 2 number cubes follow these steps:

1. If you have never used the probability feature on the TI-73, you must first store an integer "seed value" in the calculator. If the calculator is not seeded for a random value, students might generate the same random value if they are using a school set of calculators that were manufactured at the same time. To store an integer seed value, follow these steps:

- Go to the HOME screen by pressing 2<sup>nd</sup> and QUIT(MODE key).
- Select the digits of any number. This number should be unique if seeding a class set of calculators. For example, enter the last 4 digits of your phone number.
- Select the STO key.

1234→■

- Select the MATH key.

```

MATH NUM PRB LOG
1:1cm(
2:9cd(
3:3
4:3J(
5:*J
6:Solver...

```

- Right arrow key to PRB.

```

MATH NUM PRB LOG
1:rand
2:randInt(
3:nPr
4:nCr
5:!
6:coin(
7:dice(

```

- Select 1: rand
- Select Enter. Enter again.

```
1234→rand    1234
```



Your calculator is now seeded.

2. To simulate the sum of rolling 2 number cubes (the winning horse), follow these steps:

- Go to the HOME screen. Press 2<sup>nd</sup> and QUIT (MODE key).
- Select MATH and PRB.

```
MATH NUM PRB LOG
1:rand
2:randInt(
3:nPr
4:nCr
5:!
6:coin(
7:dice(
```

- Select 7:dice
- Select 4,2) This means roll 2 dice 4 times and show the sum of the dice.
- Select ENTER. The window will show the sum of 2 dice for 4 rolls.

```
dice(4,2)
(7 9 6 8)
```



- For the simulation of the horse race, the above data represents the winning horses for 4 races.
- Repeat 5 more times for 24 races. Do this by selecting ENTER 5 times. (Only 3 more outcomes are shown below.)

```
dice(4,2)
(8 9 10 7)
dice(4,2)
(7 5 8 8)
dice(4,2)
(11 12 6 7)
```



Students should compare the experimental probability with the theoretical probability of the sum of rolling 2 number cubes.

The TI-73 can be used for other probability experiments.

1. To simulate flipping a coin, go to the HOME screen, select MATH, PRB ,6, and the number of times you wish to flip a coin. For example, to flip a coin 5 times:

```
coin(5)
(0 1 1 0 0)
```

Students should decide in advance the representation for heads/tails (1 or 0).

2. To simulate the roll of one die, select MATH, PRB, 7, and the number of times to roll the die. For example, to roll one die 10 times:

```
dice(10)
(2 5 3 5 6 5 5 ...)
```

NOTE: The window cannot show all 10 results. Use the right arrow to see the remaining results. One the roll of one die, the maximum number of results that will appear in the window is 7 rolls. Select ENTER to roll the die again.

Submitted by:

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## What's in a Name?

or

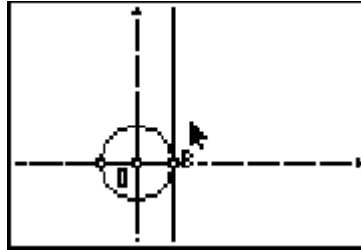
## Trigonometric Tangent vs Geometric Tangent

*Long ago, a Greek mathematician had three sets of twins. Now, the names of the children were as customary for the times as are Jacob and Emily today. Furthermore, it was traditionally true to prefix the name of the second of the twins with "co-." Hence, the mathematician named the first of each set of twins Sine, Secant, and Tangent, respectively. Yes, the second child in each corresponding set was named Cosine, Cosecant, and Cotangent. The mathematician, upon the development of trigonometry, simply named the various trigonometric ratios after these six children!*

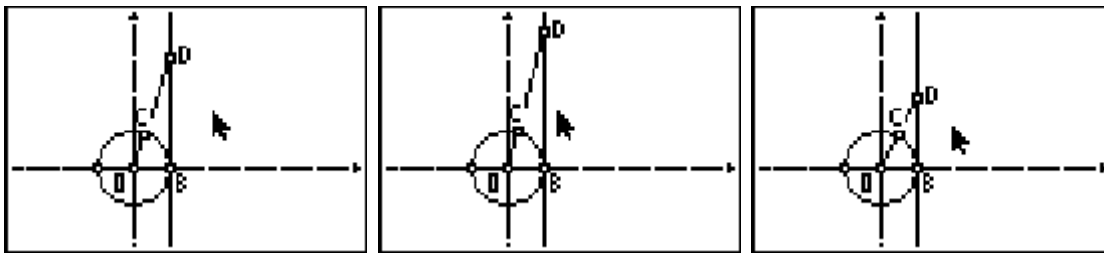
This explanation, however flawed, has satisfied the curiosity of many students when they expressed their collective confusion regarding the significance of these trigonometric names. Although a more

appropriate explanation follows, the students usually like the first one more.

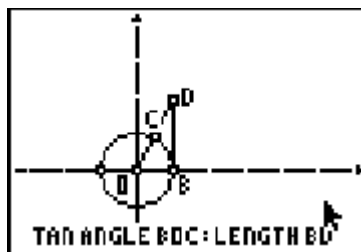
Observe the diagram developed by using the interactive geometry APP, [Cabri Jr.](#), with a [TI-83 Plus Silver Edition](#). The screen capture indicates circle  $O$ , with radius one and center at the origin, has a tangent which is perpendicular to the  $x$ -axis. Point  $B$  is a common point for the circle, the positive side of the  $x$ -axis, and the tangent line.



A line segment has been inserted into the diagram, passing from  $O$  through  $C$ , a point on the circle, to  $D$ , a point on the tangent line. Examine each of the next set of screens to conclude that the relationships remain constant, even though point  $C$  has been relocated along the circle's first-quadrant path.



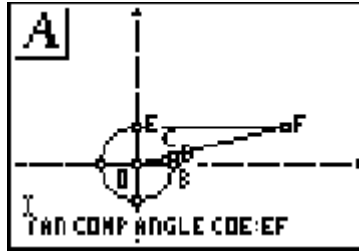
Replacing the tangent line  $BD$  with a line segment  $BD$  will have us ready to draw conclusions about the relationship between the geometric tangent and the trigonometric tangent.



Students, after just a few examples of comparing the tangent of angle  $BOC$  with the length of the tangent segment  $BD$ , that the values are the same. Let's say that again! The measure of the geometric tangent segment is the same value as that found when calculating the tangent of the angle  $BOC$ . WOW! Now, the justification for the name tangent in trig makes much more sense since the value for tangent is connected with the geometric tangent.

About this time, students may ask what's up with this "second child in this set of twins?" Let's re-examine the concept of "Co-" from a geometrical point of view. Angle  $BOC$  has a Compliment, which is angle  $COE$ . So, the tangent of the complementary angle is the same as the length of the tangent

segment from the point E (at the intersection of the y-axis, circle O, and the tangent line segment EF) to point F. Observe the following diagram.



Let's review. The Cotangent is actually the tangent of the complement of angle BOC. It is equivalent to the measure of line segment EF. As was stated earlier, this provides a better mathematical justification for the relationship between the geometrical tangent and the trigonometric tangent. It also provides a reasonable justification for the prefix "Co-." Students still like the twins story better.

A similar reasoning process provides explanation for the names Sine and Secant. I will be happy to email that information to anyone who writes me.

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Buy now, pay (and pay and pay) later!

*Teacher Notes*

*Course:* I use this lesson in Algebra 2 as a cumulating activity in the sequences unit.

*Objectives:*

Students will solve a real-world problem using sequences.  
 Students will learn the dangers of credit card spending.

*Prerequisites:* Student should already know how to recognize the difference between arithmetic and geometric sequences. [My text refers to a third type, a shifted geometric  $a_n = ra_{n-1} + d$ . I like the emphasis on the transformation of the geometric sequence.] They should also be able to write a recursive definition for a sequence.

*Materials:*

Copy of two-page worksheet  
 Calculator (graphing if possible)





Access to computer, either individually or for each group

*Time:* One 55-minute class period

*Procedure:* Distribute copies of worksheets and have students work in pairs or groups to complete questions 1-7. My students are more successful with these questions if they discuss with one or more peers as they answer these questions. That discussion provides the reassurance that they are on the right track. Questions 1-7 prepare them for our whole class discussion about the mechanics of setting up the spreadsheet. Once we have discussed how to replicate the process they were using with the spreadsheet, they returned to partner work to complete the activity. I circulate because I love hearing the comments as they start seeing how long it will take to pay off their purchase using the minimum payment. I wait to introduce the *minimum* minimum payment until the questions start coming because their balance is "stuck" at pennies. They can then understand why banks need to have a minimum payment amount. They adjust their spreadsheet appropriately and finish the activity. [Note: Each year before I start this activity I need to check that the URL still works. If it doesn't, a Google search for "credit card calculator" will find it or a similar site again.]

## *Buy now, pay (and pay and pay) later!*



### **Sony Complete Dolby Digital/DTS Audio System with 5-DVD/CD Changer and Pro Logic II**

Model: HT-5500D

This sleek component-based A/V package makes movies come alive with rich visual detail and riveting surround effects. Dolby Pro Logic II creates 5.1-channel sound from stereo sources.

[Back of Receiver](#)  
[Angle View](#)  
[Back of DVD/CD Remote Control](#)

**In Stock** - Usually ships in 2-3 business days. **Available for pickup at most stores.**

[ThinkAbout™ It](#)

**\$599.99** **BUY**



### **Samsung 30" Widescreen DynaFlat HDTV Monitor**

Model: TXM-3096WHF

Talk about reality TV! This showpiece brings you startling high-definition images in all their panoramic glory. Pro Chip Plus system upgrades standard TV signals to progressive-scan quality.

[Angle View](#)  
[Back View](#)  
[Remote Control](#)

Limited delivery area — [check availability](#). **Available for pickup at most stores.**

[ThinkAbout™ It](#)

**\$999.99** **BUY**

College students receive lots of offers for "pre-approved" credit cards. Since they are frequently short on cash, this often seems like a great solution to them. Buy it now, pay for it later . . . when they have more money. In this lesson you will explore what happens when they can't pay for that purchase next month either.

His senior year of college, Jodie moves into an off campus apartment. He decides he really needs a nice home theater system for his new apartment. Jodie uses his new credit card to buy the system above. By the time he pays tax and gets the extended warranty, the total cost is \$1856. The bank issuing the credit card will charge interest each month on the balance and require a minimum payment. A median interest rate on credit cards is 16.5% annually and most banks calculate the minimum payment as 2% of the balance.

1. If 16.5% (.165) is the annual interest rate, find the monthly interest rate: \_\_\_\_\_

2. How much interest will be charged the first month? \_\_\_\_\_

So the new balance is: \_\_\_\_\_

3. Find the minimum monthly payment for the first month: \_\_\_\_\_

4. How much does Jodie owe on his new theater system after one month? \_\_\_\_\_

5. Fill in the table for first six months that Jodie owns his new home theater system.

<i>Month</i>	<i>Interest</i>	<i>Minimum monthly payment</i>	<i>Remaining balance</i>
1			
2			
3			
4			
5			
6			

6. Write a recursive definition for the sequence of the remaining balance.

7. Is the sequence you wrote for #6 arithmetic, geometric, or neither? Explain.

While we could complete this lesson on your calculator, a spreadsheet is a much faster tool. Launch Excel at your computer station. Place these titles in columns A-D: Month, Balance, Payment, Interest. We will discuss together how to set up the spreadsheet.

Use your spreadsheet to answer the following questions.

8. How long will it take for Jodie to pay for his home theater system? \_\_\_\_\_

9. How much interest will he pay? \_\_\_\_\_

How much will his theater system cost *total*? \_\_\_\_\_

Check your work at [http://www.webwinder.com/wwhtmbin/java\\_cci.html](http://www.webwinder.com/wwhtmbin/java_cci.html)

10. We used a *minimum* minimum payment of \$25. Some cards have a lower amount. Modify the applet to reflect a *minimum* minimum payment of \$10. How does this change the total cost for Jodie's home theater? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11. If time permits, continue using the applet to explore the effect of different rates, payment amounts, etc.

Write a few sentences summarizing what you learned. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Key:**

Month	Balance	Payment	Interest
0	\$1,856.00		
1	\$1,844.40	\$37.12	\$25.52
2	\$1,832.87	\$36.89	\$25.36
3	\$1,821.42	\$36.66	\$25.20
4	\$1,810.03	\$36.43	\$25.04
5	\$1,798.72	\$36.20	\$24.89
6	\$1,787.48	\$35.97	\$24.73
7	\$1,776.31	\$35.75	\$24.58
8	\$1,765.20	\$35.53	\$24.42
9	\$1,754.17	\$35.30	\$24.27
10	\$1,743.21	\$35.08	\$24.12
11	\$1,732.31	\$34.86	\$23.97
12	\$1,721.49	\$34.65	\$23.82

13	\$1,710.73	\$34.43	\$23.67
14	\$1,700.04	\$34.21	\$23.52
15	\$1,689.41	\$34.00	\$23.38
16	\$1,678.85	\$33.79	\$23.23
17	\$1,668.36	\$33.58	\$23.08
18	\$1,657.93	\$33.37	\$22.94
19	\$1,647.57	\$33.16	\$22.80
20	\$1,637.27	\$32.95	\$22.65
21	\$1,627.04	\$32.75	\$22.51
22	\$1,616.87	\$32.54	\$22.37
23	\$1,606.76	\$32.34	\$22.23
24	\$1,596.72	\$32.14	\$22.09
25	\$1,586.74	\$31.93	\$21.95
26	\$1,576.83	\$31.73	\$21.82
27	\$1,566.97	\$31.54	\$21.68
28	\$1,557.18	\$31.34	\$21.55
29	\$1,547.44	\$31.14	\$21.41
30	\$1,537.77	\$30.95	\$21.28
31	\$1,528.16	\$30.76	\$21.14
32	\$1,518.61	\$30.56	\$21.01
33	\$1,509.12	\$30.37	\$20.88
34	\$1,499.69	\$30.18	\$20.75
35	\$1,490.31	\$29.99	\$20.62
36	\$1,481.00	\$29.81	\$20.49
37	\$1,471.74	\$29.62	\$20.36
38	\$1,462.55	\$29.43	\$20.24
39	\$1,453.40	\$29.25	\$20.11
40	\$1,444.32	\$29.07	\$19.98
41	\$1,435.29	\$28.89	\$19.86
42	\$1,426.32	\$28.71	\$19.74
43	\$1,417.41	\$28.53	\$19.61
44	\$1,408.55	\$28.35	\$19.49
45	\$1,399.75	\$28.17	\$19.37
46	\$1,391.00	\$27.99	\$19.25
47	\$1,382.30	\$27.82	\$19.13
48	\$1,373.66	\$27.65	\$19.01
49	\$1,365.08	\$27.47	\$18.89
50	\$1,356.55	\$27.30	\$18.77
51	\$1,348.07	\$27.13	\$18.65
52	\$1,339.64	\$26.96	\$18.54
53	\$1,331.27	\$26.79	\$18.42
54	\$1,322.95	\$26.63	\$18.30
55	\$1,314.68	\$26.46	\$18.19
56	\$1,306.47	\$26.29	\$18.08
57	\$1,298.30	\$26.13	\$17.96
58	\$1,290.19	\$25.97	\$17.85
59	\$1,282.12	\$25.80	\$17.74
60	\$1,274.11	\$25.64	\$17.63
61	\$1,266.15	\$25.48	\$17.52
62	\$1,258.23	\$25.32	\$17.41
63	\$1,250.37	\$25.16	\$17.30
64	\$1,242.56	\$25.00	\$17.19
65	\$1,234.65	\$25.00	\$17.09
66	\$1,226.62	\$25.00	\$16.98
67	\$1,218.49	\$25.00	\$16.87

68	\$1,210.24	\$25.00	\$16.75
69	\$1,201.88	\$25.00	\$16.64
70	\$1,193.41	\$25.00	\$16.53
71	\$1,184.82	\$25.00	\$16.41
72	\$1,176.11	\$25.00	\$16.29
73	\$1,167.28	\$25.00	\$16.17
74	\$1,158.33	\$25.00	\$16.05
75	\$1,149.26	\$25.00	\$15.93
76	\$1,140.06	\$25.00	\$15.80
77	\$1,130.74	\$25.00	\$15.68
78	\$1,121.28	\$25.00	\$15.55
79	\$1,111.70	\$25.00	\$15.42
80	\$1,101.99	\$25.00	\$15.29
81	\$1,092.14	\$25.00	\$15.15
82	\$1,082.16	\$25.00	\$15.02
83	\$1,072.04	\$25.00	\$14.88
84	\$1,061.78	\$25.00	\$14.74
85	\$1,051.38	\$25.00	\$14.60
86	\$1,040.83	\$25.00	\$14.46
87	\$1,030.14	\$25.00	\$14.31
88	\$1,019.31	\$25.00	\$14.16
89	\$1,008.32	\$25.00	\$14.02
90	\$997.19	\$25.00	\$13.86
91	\$985.90	\$25.00	\$13.71
92	\$974.46	\$25.00	\$13.56
93	\$962.86	\$25.00	\$13.40
94	\$951.09	\$25.00	\$13.24
95	\$939.17	\$25.00	\$13.08
96	\$927.09	\$25.00	\$12.91
97	\$914.83	\$25.00	\$12.75
98	\$902.41	\$25.00	\$12.58
99	\$889.82	\$25.00	\$12.41
100	\$877.06	\$25.00	\$12.24
101	\$864.11	\$25.00	\$12.06
102	\$851.00	\$25.00	\$11.88
103	\$837.70	\$25.00	\$11.70
104	\$824.22	\$25.00	\$11.52
105	\$810.55	\$25.00	\$11.33
106	\$796.69	\$25.00	\$11.15
107	\$782.65	\$25.00	\$10.95
108	\$768.41	\$25.00	\$10.76
109	\$753.98	\$25.00	\$10.57
110	\$739.34	\$25.00	\$10.37
111	\$724.51	\$25.00	\$10.17
112	\$709.47	\$25.00	\$9.96
113	\$694.23	\$25.00	\$9.76
114	\$678.77	\$25.00	\$9.55
115	\$663.10	\$25.00	\$9.33
116	\$647.22	\$25.00	\$9.12
117	\$631.12	\$25.00	\$8.90
118	\$614.80	\$25.00	\$8.68
119	\$598.25	\$25.00	\$8.45
120	\$581.48	\$25.00	\$8.23
121	\$564.47	\$25.00	\$8.00
122	\$547.24	\$25.00	\$7.76

123	\$529.76	\$25.00	\$7.52
124	\$512.04	\$25.00	\$7.28
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131	\$381.02	\$25.00	\$5.51
132	\$361.26	\$25.00	\$5.24
133	\$341.23	\$25.00	\$4.97
134	\$320.92	\$25.00	\$4.69
135	\$300.33	\$25.00	\$4.41
136	\$279.46	\$25.00	\$4.13
137	\$258.31	\$25.00	\$3.84
138	\$236.86	\$25.00	\$3.55
139	\$215.11	\$25.00	\$3.26
140	\$193.07	\$25.00	\$2.96
141	\$170.73	\$25.00	\$2.65
142	\$148.07	\$25.00	\$2.35
143	\$125.11	\$25.00	\$2.04
144	\$101.83	\$25.00	\$1.72
145	\$78.23	\$25.00	\$1.40
146	\$54.31	\$25.00	\$1.08
147	\$30.05	\$25.00	\$0.75
148	\$5.47	\$25.00	\$0.41
149		\$5.47	

12.42  
years                      \$4,068.49 \$2,212.49

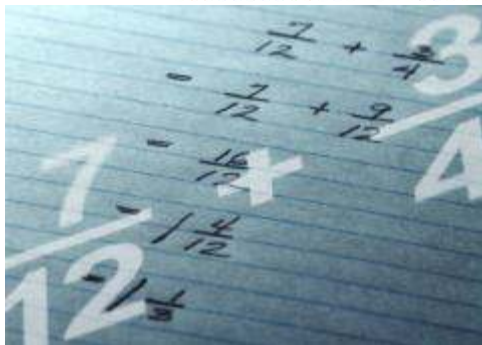
Submitted by:

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Presidential Awardee, 2003

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## Book Review:

### *Teaching Fractions and Ratios for Understanding*

by Susan J. Lamon

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The National Council of Teachers of Mathematics states in their Curriculum and Evaluations Standards (1989) that proportional reasoning "is of such great importance that it merits whatever time and effort must be expended to assure its careful development"(p. 82). This book by Susan J. Lamon is a wonderful attempt at describing ways students, teachers, and in fact, *anyone* can achieve proportional reasoning skills. The introduction of the book describes several of the ways that this book has been used. The book has been used with pre-service elementary teachers in math and math methods courses and with in-service teachers in a summer institute. The activities in the book have been used as part of family mathematics nights. In any context the problems presented in the book provide material for interesting discussions, as diverse reasoning occurs among different people solving the problems. Lamon's book includes chapters on relative and absolute thinking, units and unitizing, partitioning and quotients, reasoning with fractions, ratios, analyzing change, similarity and percents, and many other mathematically significant topics.

Each chapter introduces a concept and provides some real life children's strategies for solving problems related to the concept. The author then discusses the children's strategies and the mathematics, along with implications for instruction. Within each section, there are several problems for the reader to solve, using proportional reasoning only. At the end of each chapter there are questions for reflection that allow the reader the opportunity to reflect on the mathematics and strategies discussed in the chapter. The problems and reflection questions in each chapter are particularly helpful in the readers' understanding and processing of the material.

I have recently used this book as a resource book for my Mathematics for Elementary and Middle Grades Teachers courses at Northern Kentucky University. I have developed several worthwhile mathematical tasks based on activities in this book that have proven to be very effecting in the classroom. The following is an example of a worthwhile mathematical task adapted from Lamon, page 73 :

#### *Windsurfing with Mark*



*Mark has been training for a windsurfing race for the past 3 days. On the first day, he traveled 4 miles in 15 minutes. On the second day, he traveled 6 miles in 20 minutes. On the third day, he traveled 2 and one half miles in 10 minutes. On what day did Mark travel the fastest? Explain fully.*

*Mark's friend Jan is also training for the same race. Her best time so far has been 8 and one half miles in 30 minutes. Based on this information, whom would you expect to win a race between Mark and Jan? Defend your choice.*



*Mark's brother, Andrew, bets Mark that he can ride his bike faster than Mark can windsurf. Andrew can ride 20 miles in one hour. Who will win the bet? Defend your answer.*

I can imagine that activities within this book would be useful and adaptable for many elementary, middle, secondary and pre-service teacher college courses.

I encourage any educator who teaches fractions to students to read this book. The ideas provided are inspiring to teachers and students alike.

*I would like to also take this opportunity to introduce myself to the Kentucky Council of Teachers of Mathematics community. My name is Beth Noblitt, and I am the new Vice-President College of KCTM. I am happy to be a new member of the KCTM board and would be glad to offer my services in any way to further the cooperation of mathematics education across the college and pre-college levels. If there is anything that I can ever do for any of you, in order for us to jointly meet the goal of cooperation in mathematics education, please feel free to email me and let me know.*

Submitted by:

Beth Noblitt

KCTM Vice President - College

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### **Kentucky's Newest Presidential Award Recipient**

Congratulations to Sue Fountain, Kentucky's 2003 Presidential Award Recipient! Sue just returned from the award program in Washington.

We asked her to share some thoughts about her experience in Washington and some information about the award. (See the article below: *Thoughts from Washington.*)

Sue also shared a copy of the lesson that she took to Washington (See the high school lesson included in this newsletter: *Buy now, pay (and pay and pay) later!*)

#### Thoughts from Washington

Coming back down to earth after a week in Washington being treated like royalty is a little difficult! Besides being really cold, my week in DC as the 2003 Presidential Awardee for Mathematics for Kentucky was absolutely wonderful—a highlight of my career! A cruise on the Potomac, a posh dinner at the State Department, the award ceremony at the National Academy of Science, meeting President Bush and the First Lady at the White House, listening to colleagues testify before a Congressional subcommittee, and \$10,000 for math toys are all part of the Presidential Award for Excellence in Mathematics and Science Teaching. It is an exhilarating, humbling, and deeply inspiring experience!

The application consists of a videotaped lesson from your classroom and your analysis of that lesson.

However, someone must submit a nomination. We are fortunate to have many creative, passionate teachers in Kentucky so I'm sure that we all know someone who inspires us to better teaching. You can nominate them at <http://www.paemst.org>. Kindergarten through 6<sup>th</sup> grade teachers are recognized in even years and 7<sup>th</sup>-12<sup>th</sup> grade teachers in odd years.

Sue Fountain  
Louisville Male High School  
Jefferson County

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## Kentucky Teacher Receives T<sup>3</sup> Leadership Award

The T<sup>3</sup> Leadership award is given annually. Awards are presented to

- A T<sup>3</sup> (Teachers Teaching with Technology) program Instructor
- A Technology For All Students leader
- An organizer of a T<sup>3</sup> event

This prestigious award is to recognize educators who have exemplified the ideals of the T<sup>3</sup> Program - that is, to enhance mathematics and science teaching and learning through the creative and enthusiastic application of handheld technology in their classrooms.

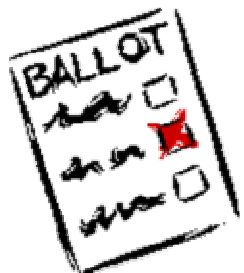
One of this year's T<sup>3</sup> Leadership Award Winners is **Ruth Casey** of Anderson County High School in Lawrenceburg, Kentucky. Congratulations to Ruth for this well-deserved award!

Ruth also plays a critical role in KCTM. She is our membership chair and handles conference registration for us.

For more information about Ruth and the T<sup>3</sup> Leadership Award go to:

<http://education.ti.com/us/training/aboutt3/leadership.html>





## Call for Nominations

You're Invited!

The KCTM is currently accepting nominations for the following offices: President-Elect, Vice President - High School, Vice President - Middle School, and Secretary. The election will be conducted in conjunction with the fall conference registration.

Teachers elected to these positions will serve for two years beginning in the fall of 2004. Persons holding these positions also have a seat on the KCTM Board, which meets about 4 times per year. A major duty of the Board is to reflect on the most recent KCTM annual state conference and to plan for the subsequent conference. Additional duties for the vice-presidents include writing articles for the KCTM newsletter and helping the Conference Program Chair find speakers. Send your nominations to John Ashurst by August 15, 2004. It is most acceptable to self-nominate!

John Ashurst

KCTM Vice President - High School

Harlan County Public Schools

[jashurst@harlan.k12.ky.us](mailto:jashurst@harlan.k12.ky.us)



## KCTM T-shirt Design Contest

Design a t-shirt for KCTM

Only original designs please!!  
Must be on 8½ by 11 inch paper

Send designs to: Kathy Montgomery  
3953 Boston Road  
Lexington, KY 40514

Questions: email Kathy at [snkmonty@insightbb.com](mailto:snkmonty@insightbb.com)  
or call Kathy at (859) 224-1293

Deadline: August 31, 2004

Prize: free item with new design and free KCTM conference registration



## **Field Test Teachers Needed for Data Analysis Software & Curriculum**

Looking to enhance data analysis in your classroom? Tabletop, the popular tool for graphing and organizing data, is seeking teachers to beta test revisions of this fun and interactive software. Participants will test the data tool and web-based curriculum in their Grades 3-12 classrooms.

Field test teachers will attend a training session and receive access to the software and web based curriculum, including brief lesson plans and extended projects. For more information, contact Kate Kennedy at [kate\\_kennedy@terc.edu](mailto:kate_kennedy@terc.edu) or 617.547.0430.



## Summer Opportunities

### \*\* Outer Banks Summer Institute & DEV Short Course

The five-day short course "Developmental Algebra Using a Function Approach" will be offered in Duck, North Carolina, June 13 - June 18, 2004. We will investigate a beginning/intermediate algebra curriculum that uses a function approach and develops mathematical ideas in the context of real-world situations. For a table of contents and information about the course, please go to [www.math.ohio-state.edu/~elaughba/](http://www.math.ohio-state.edu/~elaughba/). College level developmental algebra faculty and teachers of remedial algebra, Algebra I and Algebra II in high school are welcome.

The course is a cooperative effort between the [T<sup>3</sup>.Teachers Teaching with Technology College Short Course Program](#) and the [AMATYC](#) Summer Institute Program. We will use the Texas Instruments CBL 2(tm), TI-84 Plus SE(tm), and the TI-Navigator(tm) as tools of choice for teaching developmental algebra. The instructors will be Ed Laughbaum from The Ohio State University, Debbie Crocker from Appalachian State University, and Marlena Herman from Rowan University. For more information, please contact Ed Laughbaum, [elaughba@math.ohio-state.edu](mailto:elaughba@math.ohio-state.edu).

### \*\* Math Teacher Educator Handheld Technology Short Course (for teacher educators only)

This three-day short course "Implementing Handheld Technology in the Teacher Education Curriculum" is designed for mathematics teacher educators involved in the both content and methods courses for **pre-service secondary mathematics teachers**. We will investigate materials and activities for the mathematics teacher educator interested in integrating handheld technology in their pre-service teacher educator programs. The Texas Instruments TI-83/84 Plus SE, TI-Voyage 200, CBL 2(tm), CBR, and **TI Navigator** will be integrated into the teaching activities. Each of the first 25 participants will receive a free TI-83 Plus SE VS unit and a CBL2. Further, funding is available for housing grants of \$200 each for the first 25 participants - payable as reimbursements.

This course is being offered twice this summer, in Duck, NC, June 7 - 9, and in Breckenridge, CO, May 24 - 26, 2004. The scheduled instructors are Debbie Crocker from Appalachian State University, and Marlena Herman from Rowan University at the Duck site, and Paul Kennedy, Colorado State University at the Breckenridge site.

For information on registering for this short course, please email Ed Laughbaum, [elaughba@math.ohio-state.edu](mailto:elaughba@math.ohio-state.edu) or visit [www.math.ohio-state.edu/shortcourse/](http://www.math.ohio-state.edu/shortcourse/) for the registration form. (Duck is on the Outer Banks of North Carolina, and Breckenridge in the mountains of Colorado - good places to vacation with your family!)



## Reports from Affiliates

### Lexington Council Teachers of Mathematics

LCTM had their March Madness Spring Meeting on Wednesday, February 25, 2004, at Tates Creek Senior in Lexington with 59 members attending. Sessions included: "Teaching Multiplication" with Debbie Waggoner, "Logic Problems" with author Evelyn Christensen and "Minitab Software" with Shannon Cole. This was the 7th Annual LCTM March Madness PD. The members attending represented 23 schools as well as UK and ECU. It was a huge success!!

Submitted by

Natalee M. Feese

LCTM Representative

Fayette County Public Schools

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### Northern Kentucky Council of Teachers of Mathematics

Spring Activities in Northern Kentucky

March 10 - Open Response Workshop for High School Teachers

March 18 - Integrating Math and Science Workshop for Elementary Teachers

May 12 - Spring Conference, 3:30-6:30, NKU

Maggie McGatha, Ed.D.

NKCTM Representative

Northern Kentucky University

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