

ROUND 1

1. TOSSUP: Giving your answer in the correct unit, what is the area of a rectangle whose length is 7 inches and whose width is 4 inches? (28 square inches) (10 pts)

FOLLOWUP: Abe walked halfway around a rectangle whose length is 2 miles and whose width is 1 mile. Bob took a shortcut by walking a straight line from one corner to the diagonally opposite corner of the rectangle. Rounding off to the nearest hundredth of a mile, how much longer was Abe's walk than Bob's walk? (0.76 or 0.76 miles) (12 pts)

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2. TOSSUP: Giving your answer as a fraction reduced to lowest terms, what is the product of one half, two-thirds, and three-fourths? (one fourth) (10 pts)

FOLLOWUP: Compute the sum of one half, one third, one fourth, one fifth, and one sixth, giving your answer as a fraction reduced to lowest terms. $\frac{29}{20}$ or $1\frac{9}{20}$ (12 pts)

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3. TOSSUP: Jason's first two tests grades were 87 and 77. What was the average of these two test grades? (82) (10 pts)

FOLLOWUP: Jason's first five test grades were 87, 77, 95, 91, and 85. What does he need to make on his sixth test in order to earn an 89 average? (99) (12 pts)

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4. TOSSUP: What is twenty-five percent of sixty? (15) (10 pts)

FOLLOWUP: The country of Iraq has a total population of 24 million people. Forty-one percent are younger than 14, while three percent are older than 65. How many people in Iraq are between 14 and 65, inclusive? (13,440,000) (12 pts)

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5. TOSSUP: What is the total value of three quarters and four nickels? (95 cents) (10 pts)

FOLLOWUP: Elizabeth has fifteen more dollars than Erika. Together they have 133 dollars. How much money does Elizabeth have? (\$74) (12 pts)

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6. TOSSUP: How many millimeters are in one meter? (one thousand) (10 pts)

FOLLOWUP: A basketball rim is ten feet above the floor. Using the conversion 2.54 centimeters equals one inch, tell how many millimeters above the floor this is. (3048 or 3048 mm) (12 pts)

ROUND 2

1. TOSSUP: What number is seven less than three? (negative 4 or minus 4) (10 pts)

FOLLOWUP: A fireman stood on the middle rung of a ladder, directing water into a burning building. As the smoke lessened, he stepped up three rungs. A sudden flare-up forced him to go down five rungs. Later he climbed up seven rungs and worked there until the fire was out. Then he climbed the remaining six rungs to the top of the ladder and entered the building. How many rungs did the whole ladder have? (23) (12 pts)

2. TOSSUP: How many days will there be in the year 2004? (366) (10 pts)

FOLLOWUP: Mark's birthday is in September and is 14 days before Andrew's. Morgan's birthday is 24 days before Robert's and is 24 days after Andrew's. One of the boys was born in December. What is the date of each boy's birthday?

(Mark - September 30, Andrew - October 14, Morgan - November 7, Robert - December 1)
(12 pts)

3. TOSSUP: What is the sum of the numbers from 1 through 5? (15) (10 pts)

FOLLOWUP: What is the sum of the numbers from 1 through 200? (20,100) (12 pts)

4. TOSSUP: Giving your answer in the correct unit, what is the radius of a circle that has a diameter of 10 meters? (5 meters) (10 pts)

FOLLOWUP: Draw a square. Draw a circle centered inside the square, tangent to the square on all four sides. Giving the exact value of the answer, what is:

(a) the ratio of the **area** of the circle to the **area** of the square? ($\pi/4$) (6 pts)

(b) the ratio of the **circumference** of the circle to the **perimeter** of the square?
also ($\pi/4$) (6 pts)

5. TOSSUP: There are 206 bones in a human skeleton. Each hand has 26 bones. How many of our bones are NOT in our hands? (154) (10 pts)

FOLLOWUP: Deaths in Georgia due to the illegal use of the painkiller OxyContin increased over the past few years. There were only 3 deaths in the year 2000, but 76 deaths in 2001, and 93 deaths in 2002. Now for this year. Through October 14 of 2003, there were 62 deaths. If deaths continue at the rate they have been occurring so far during 2003, how many deaths will there be in the whole year of 2003? (Round to the nearest whole number.)
(79 or 79 deaths) (12 pts)

6. TOSSUP: What number is equal to seven squared? (49) (10 pts)

FOLLOWUP: I am thinking of a number. If I add that number, its square, and its cube, I get eleven thousand one hundred fifty-four. What number am I thinking of? (22) (12 pts)

ROUND 3

1. TOSSUP: What is the new price of an item, if the old price was five dollars and the price increased by two hundred percent? (fifteen dollars) (10 pts)

FOLLOWUP: If the population of a town increases from twenty-five thousand to thirty thousand seven hundred fifty, what percent increase does this represent?
(23 or 23%) (12 pts)

2. TOSSUP: What whole number is closest to the square root of 48? (7) (10 pts)

FOLLOWUP: It is possible to enter a certain number in your calculator, press the square root button four times in a row, and then have the calculator display the exact number two. What

is the certain number you have to start with?

(65,536) (12 pts)

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3. TOSSUP: If the perpendicular sides of a right triangle have lengths 4 and 3, what is the length of the hypotenuse? (5) (10 pts)

FOLLOWUP: We know that three squared plus 4 squared equals 5 squared plus zero squared. Find all other examples in which the sum of the squares of two single-digit integers equals the sum of the squares of two other single-digit integers. List all answers in the form “three squared plus four squared equals 5 squared plus zero squared.”

($1^2 + 7^2 = 5^2 + 5^2$, $1^2 + 8^2 = 4^2 + 7^2$, $2^2 + 9^2 = 6^2 + 7^2$) (4 pts for each example)

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4. TOSSUP: What fraction is left when you subtract one-ninth from one-third? (two ninths) (10pts)

FOLLOWUP: What number is exactly halfway between the numbers three sevenths and five elevenths? Express your answer as a fraction in lowest terms. $\frac{34}{77}$ (12 pts)

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5. TOSSUP: Water boils at what celsius or centigrade temperature? (100 or 100°) (10 pts)

FOLLOWUP: When the temperature rises twenty degrees celsius, how many degrees is the temperature rising in the Fahrenheit scale? (36 or 36 degrees) (12 pts)

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6. TOSSUP: Give the product of negative 4 times negative 4. (16 or positive 16) (10 pts)

FOLLOWUP: If you started with ten dollars, earned ten pennies, spent nine nickels, earned eight dimes, spent seven quarters, earned six half dollars, and spent five silver dollars, how much money would you have left over? (\$6.70) (12 pts)

ROUND 4

1. TOSSUP: What is the name of the metric unit which is slightly larger than one quart. (liter) (10 pts)

FOLLOWUP: Using the fact that one quart is approximately “point nine four six liters”, that is, 946 thousandths of a liter, tell how many milliliters are in one cupful, rounded to the closest whole number. (It is 236.5, so accept either 236 or 237) (12 pts)

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2. TOSSUP: Miss Johnson’s school has a lot of card tables, all the same size. They seat one person on each side. Of course, when you push two tables together, it takes away one setting from each table. How many people can be seated when ten tables are placed together in one long line? (22) (10 pts)

FOLLOWUP: How many such card tables would have to be placed together in one long line in order to make the ratio of seating places to tables exactly two and one tenth? (20 or 20 tables) (12 pts)

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3. TOSSUP: What is the total number of digits you would write, including repetitions, if you wrote down all the numbers from one to twelve? (15) (10 pts)

- FOLLOWUP: (a) How many two-digit positive whole numbers are there? (90) (6 pts)
(b) How many three-digit positive whole numbers are there? (900) (6 pts)

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4. TOSSUP: If Bill talked on the phone from 7:48 until 8:02, how many minutes did he talk?
(14 or 14 minutes) (10 pts)

FOLLOWUP: What is the degree measure of the angle between the minute hand and the hour hand of a clock when the time is: (a) 4:00? (120 or 120°) (6 pts)
(b) 5:30? (15 or 15°) (6 pts)

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5. TOSSUP: What is the sum of nine and the square root of nine? (12) (10 pts)

FOLLOWUP: I am thinking of a number. If you multiply that number by 4 and then take the square root of this product, and finally add the square root of the original number, you will get twelve. What number am I thinking of? (16) (12 pts)

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6. TOSSUP: Find the average of the numbers 7 and 25. (16) (10pts)

FOLLOWUP: In a hat are slips of paper, each with a number on it. There are ten ones, six twos, four threes, two fours, one six, one ten, and one more slip. What must be on this slip to make the average, or mean of all the numbers equal to exactly four? (42) (12 pts)

ROUND 5

1. TOSSUP: Krogers is selling Snack Size bags of Halloween candy for two dollars and 49 cents each. Without adding tax, what would two of these bags cost? (\$4.98) (10 pts)

FOLLOWUP: In its Halloween ad, Krogers is also advertising a fog machine for \$29.99, and fog juice for \$5.99 per quart. You decide to buy a fog machine and three quarts of fog juice. Krogers gives you one of these quarts free for buying the fog machine. What is your total bill, including 6% sales tax, to the nearest whole cent? (\$44.49) (12 pts)
(Give 10 pts if they say \$44.48)

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2. TOSSUP: How many square feet are in one square yard? (9) (10 pts)

FOLLOWUP: The town of Perfectville has a perfectly square grassy area which measures 200 feet by 200 feet. Perfectly in the middle of this grassy area is a perfectly rectangular swimming pool that measures 120 feet by 60 feet. Using the correct unit, what is the area of just the grassy area around the pool? (32,800 square feet) (12 pts)

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3. TOSSUP: How many eggs are you buying when you buy two and a half dozen eggs? (30) (10 pts)

FOLLOWUP: Lincoln's Gettysburg Address begins with the sentence: "Four score and seven years ago, our fathers brought forth on this continent a new nation, conceived in liberty and dedicated to the proposition that all men are created equal." President Lincoln was referring to the Declaration of Independence being signed four score and seven years earlier.

- (a) How many are in a "score"? (20) (6 pts)
(b) In what year was the Gettysburg Address delivered? (1863) (6 pts)
[because $1776 + (4 \times 20 + 7) = 1863$]

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4. TOSSUP: Fourteen is what percent of twenty-eight? (50 or 50%) (10 pts)

FOLLOWUP: According to the American Red Cross, about 38.4% of Americans have the most common blood type, O positive, and about 7 tenths of one percent have the least common blood type, AB negative. According to this, for every one person with AB negative blood, there are approximately how many people with O positive blood? (Round your answer to the nearest whole number.) (55) (12 pts)

5. TOSSUP: Suppose, when your mother was a child, the tooth fairy gave her a quarter for each tooth that came out. In all, how much money did she get for her twenty baby teeth? (5 dollars) (10 pts)

FOLLOWUP: Inflation has made things much more expensive for the tooth fairy these days. Suppose your kid brother got a certain amount for each of his first five teeth, double that amount for each of his next five teeth, double this second amount for each of his next five teeth, and double this third amount for his last five baby teeth. If his twenty teeth cost the tooth fairy a total of one hundred fifty dollars, how much did his first tooth cost the tooth fairy? (2 dollars) (12 pts)

6. TOSSUP: What is the greatest common factor of 18 and 30? (6) (10 pts)

FOLLOWUP: Jamie started with an empty piggy bank. Each day he put one penny, one dime, and one quarter into the bank.

- (a) How many days did he do this until his total was an exact number of dollars? (25 or 25 days) (6 pts)
(b) What is his total amount of money on that day? (9 dollars) (6 pts)
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ROUND 6

1. TOSSUP: In this week's Penny Saver, someone is offering to sell a 2001 black Ford Mustang. What will a ten percent down payment be if the price of the car is ten thousand five hundred dollars? (one thousand fifty dollars) (10 pts)

FOLLOWUP: Also in this week's Penny Saver, Mill Direct Carpets on Bay Street listed their least expensive Congoleum Vinyl floor covering at \$4.99 per square yard. What would it cost to use this covering on a rectangular floor that measures 18 feet by 10 feet? (\$99.80) (12 pts)

2. TOSSUP: Mosquitoes have six legs and spiders have eight legs. How many legs are on your arm when two mosquitoes and two spiders are crawling across it? (28 or 28 legs) (10 pts)

FOLLOWUP: The room is teeming with mosquitoes and spiders. If there are two hundred of these creatures in all, and they have a total of one thousand three hundred thirty legs, how many mosquitoes are there and how many spiders? (135 mosquitoes and 65 spiders) (12 pts)

3. TOSSUP: This year Christmas, December 25, is on a Thursday. On what day of the week will Ed's birthday be if he was born on December 10? (Wednesday) (10 pts)

FOLLOWUP: This year Halloween was on a Friday; last year it was on a Thursday. In what future year will Halloween next be on a Thursday? (2013) (12 pts)

4. TOSSUP: What is the sum of the degree measures of the interior angles of a triangle?

(180 or 180 degrees) (10 pts)

FOLLOWUP: What is the area of the trapezoid whose vertices are placed on the rectangular coordinate system at the points whose coordinates are $(0,0)$, $(9,0)$, $(6,3)$, and $(1,3)$?
(21) (12 pts)

5. TOSSUP: Suppose we assigned numerical values to the letters in the alphabet by their position, that is, $A = 1$, $B = 2$, $C = 3$, $D = 4$, etc. How many B's would equal four C's?
(six or six B's) (10 pts)

FOLLOWUP: If one wiggle equals two jiggles, and one jiggle equals five giggles, then how many giggles equal one wiggle plus one jiggle plus one giggle? (16) (12 pts)

6. TOSSUP: The Joiner Gardens on Whitfield Avenue sell a daylily called Handsome Dude for \$18 apiece. How much would five of them cost? (\$90) (10 pts)

FOLLOWUP: You decide to order two daylilies called Blissful Beauty at \$35 apiece, three Bugaboo Babies at \$15 apiece, four Scatterbrains at \$20 apiece, and five Savannah Idols at \$25 apiece. The Joiner catalog also mentions you should add \$7 to your total, plus an additional 50 cents per plant for postage and handling. Compute your total bill.
(334) (12 pts)
