Green Bay West High Elementary Math Bowl
May 10, 2007

Name: _____   School: _____

Team Number: _____

Event 1: Arithmetic

1. Bobby made a pizza for his family. His father cuts the pizza into 12 equal slices. If his mom and dad each take 1/4 of the pizza, and his three brothers each take 1/12 of the pizza, how many slices are left over for Bobby?

$$12 - 6 = 6$$
$$6 - 3 = 3$$

_____3_____

2. John and James went to the deli with their mother. Their mother buys three sandwiches, 3 bags of chips, and 3 juice boxes. James and John get one of each. The sandwiches cost $2.99 each, the bag of chips cost $1.25 each, and the juice boxes cost $0.75 each. If their mother pays with a $20.00 bill, what is her change?

$$\begin{array}{cc} 2.99 \\ \times\, 3 \\ \hline 8.97 \end{array} \quad \begin{array}{cc} 1.25 \\ \times\, 3 \\ \hline 3.75 \end{array} \quad \begin{array}{cc} .75 \\ \times\, 3 \\ \hline 2.25 \end{array} \quad \begin{array}{cc} 8.97 \\ 3.75 \\ 2.25 \\ \hline 14.97 \end{array} \quad \begin{array}{cc} 20 \\ -14.97 \\ \hline 5.03 \end{array}$$

_____5.03_____

3. Find the value of x using the equation below, when a=6 and b=1.

$$X = \frac{a^2 + \dfrac{1}{b} - b}{12 - a} \qquad \frac{6^2 + \dfrac{1}{1} - 1}{12 - 6} = \frac{36}{6}$$

_____6_____

4. Pa Kou has 64 Tootsie Rolls. After she eats half of them, she gets a tummy ache, so she gives the rest to her friend, Lou. Lou only eats ¼ of her Tootsie Rolls and gives the rest to KaBao. KaBao eats 7 Tootsie Rolls, and gives the rest to Scott. KaBao eats 7 Tootsie Rolls, and gives the rest to Scott. How many Tootsie Rolls does Scott get?

$$64 - \frac{1}{2} = 32$$
$$32 \times \frac{1}{4} = 8 \qquad \begin{array}{c} 32 \\ -8 \\ \hline 24 \end{array} \qquad \begin{array}{c} 24 \\ -7 \\ \hline 17 \end{array}$$
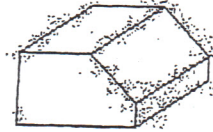
_____17_____

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Event 2: Geometry

1. Which of the following are necessary to create this shape?

   a. 4 ▭ & 1 ▱
   b. 3 ▭ & 2 ▱
   c. 4 ▭ & 2 ▱
   (d.) 5 ▭ & 2 ▱
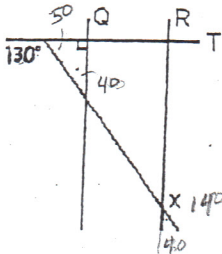
   _____D_____

2. A   Pac - Man is reflected over line AB then rotated 180°
   What is the new image?
   B

   a. ☉   b. ☉   c. ☉   d. ☉

   _____B_____

3. If Q is parallel to R, and T is perpendicular to Q and R, what does x equal?

   50   Q   R
   130°   T
   40
   x 140
   40

   _____140°_____

4. The perimeter of the equilateral triangle is 24 in. and one of its sides is the diameter of the circle. What is the area of the circle? Use $\pi = 3.14$

   8   8
   8

   $A_O = \pi r^2$
   $= 3.14 \times 4^2$
   $= 3.14 \times 16$
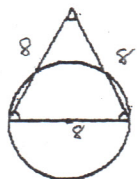
   _____50.24_____

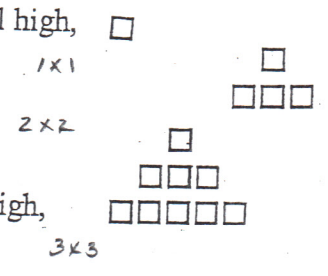## Green Bay West High Elementary Math Bowl
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Team Number: _____

Event 3: Random Hat

1. If it takes one block to build a structure one level high, ▢

   four blocks to build a structure two levels high,

   1×1

   2×2

   and nine blocks to build a structure three levels high,

   3×3

   how many blocks do you need to build a structure 9 levels high?

   9×9   81

2. Given the pattern 3, 6A, 9AB, 12ABC, what is the *8th* term?

   5 15 ABCD
   6 18 ABCDE
   7 21   F
   8 24   G

                                          24 ABCDEFG

3. If 2! = 2 x 1 = 2
      3! = 3 x 2 x 1 = 6
   and 4! = 4 x 3 x 2 x 1 = 24
   Find 6! – 5! – 4!

   6×5×4×3×2×1 – 5! – 4!

   720 – 120 – 24

                                          576

4. Mr. Zoll's gym class is waiting in line to play kickball. Camey is first. Alley is three places behind her. Landon is in front of Savannah and two places behind Alley. Ralph is in front of Alley and five places in front of Mickey. Gavin is in front of Ralph, and Noah is in front of Landon. Who is the *sixth* person in line?

   M S L N A R G C   Landon
         6

Green Bay West High Elementary Math Bowl
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Team Number: _____

Event 4: Problem Solving

1. Bradley bought a bag of marbles listed at $3.00. They were discounted at 15%. How much did he pay for the marbles?

$$3.00$$
$$0.15$$
$$\overline{}$$
$$0.45$$

$$3.00$$
$$-0.45$$
$$\overline{}$$
$$2.55$$

                                                                    2.55

2. Peter was so SMART! He got a 99% on his English test. Bobby was very jealous because he only got an 80%. 5 other students had scores: 93%, 98%, 88%, 82%, and 90%. What was the average score of the 7 children? Round to the nearest tenth.

$$99$$
$$80$$
$$93$$
$$98$$
$$88$$
$$82$$
$$+\ 90$$
$$\overline{630}$$

$$90$$
$$7\ \overline{)630}$$

                                                                    90

3. If little Frankie can run 10 yards every 5 seconds, how many yards can he run in 2.5 minutes?

$$2.5$$
$$60$$
$$\overline{}$$
$$150$$

$$\frac{10}{5} = \frac{x}{150}$$

                                                                    300

4. Sally had a secret on Monday. She told her two best friends, Maria and Charlie. On Tuesday, Maria and Charlie told 2 more people each. If this pattern keeps going, how many people, including Sally, will know Sally's secret on Thursday?

Sally
M   Maria   Charlie   1
                             2
T.   o o   o o   4
W.   o o o o o o o o   8
                           ___
                            15

                                                                    15

Score

Green Bay West High Elementary Math Bowl
May 7, 2005

Name: _____   School: _____
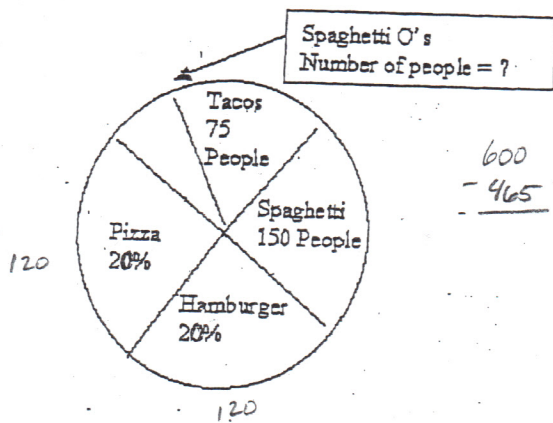
Team Number: _____

Team Event

1. If Jeremy is 2 times taller than Peter, and Peter is 1.5 times taller than Shane, Shane is 2 times taller than Baby Jack, Baby Jack is 5 inches shorter than Bee and Bee is 20 inches tall, then what is their total height in inches?

45
90
15
30
20

Peter   Jeremy   Baby Jack   Shane   Bee

30   90"   15"   30"   20"
15
45"

200

2. The picture shows the breakdown of what 600 students eat at lunchtime. How many students eat spaghettio's at lunch?

Spaghetti O's
Number of people = ?

Tacos
75
People

Spaghetti
150 People

Pizza
20%

Hamburger
20%

120

120

600
- 465

120
120
150
75
465

135

3. Simplify this expression.

$$\frac{\frac{7}{9} + \left(\frac{\overset{4}{\cancel{12}}}{15} \times \frac{1}{\cancel{3}}\right) - \frac{4}{9}}{2} = \frac{\frac{7}{9} + \frac{4}{15} - \frac{4}{9}}{2} = \frac{\frac{5}{9} + \frac{4}{15}}{2} = \frac{\left(\frac{25}{45} + \frac{12}{45}\right) \times \frac{1}{2}}{2 \times \frac{1}{2}} = \frac{27}{45} \times \frac{1}{2}$$

$$\frac{27}{90} = \frac{3}{10}$$

Answer: $\frac{3}{10}$

4. The perimeter of the equilateral triangle is 24 cm. If one side of the triangle is 2/3 of the diameter of the circle, then find the area of the square.

$$\frac{3}{2} \times \overset{4}{\cancel{8}} = \frac{2}{3}d \times \frac{3}{2}$$

$$12 = d$$
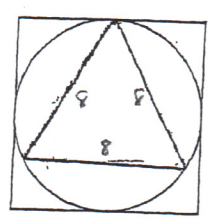
$$A_\square = 12 \times 12$$

Answer: 144 cm²

5. If 20x - 25 is expressed in the form a(4x-b), then find the value of a + b.

$$20x - 25 = a(4x - b)$$

$$20x - 25 = 4ax - ab$$

$$20x = 4ax \qquad 25 = ab$$
$$5 = a \qquad\qquad b = 5$$

Answer: 10

6. In a magic square, the sum in every horizontal row, vertical column, and diagonal are the same. In this magic square, if the row total is equal to 15, then find the value of x.

15

2	2x+1	6
9	5	1
4		

$$15 = 2 + 2x + 1 + 6$$
$$15 = 9 + 2x$$
$$-9 \qquad -9$$
$$x = 3$$

Answer: 3