

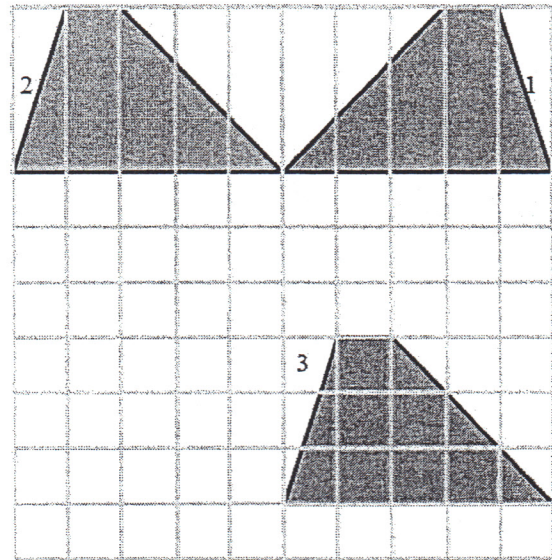
Green Bay West High Elementary Math Bowl
May 10, 2012

Name: _____ School: _____

Team Number: _____

Event 2: Geometry

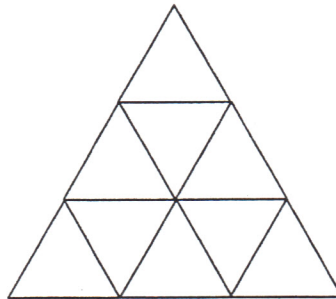
1. What combination of transformations will get us from Figure 1 to Figure 2 to Figure 3?
- reflection and translation
 - rotation and reflection
 - rotation and translation
 - reflection and rotation



 A

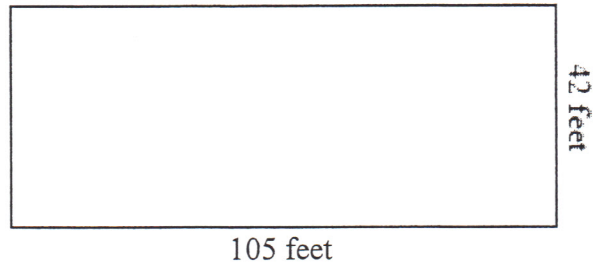
2. What is the total number of triangles found in this figure?

$\triangle \rightarrow 9$
 $\triangle \rightarrow 3$
 big $\triangle \rightarrow 1$



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3. James wants to buy enough sod for his backyard. He has a backyard with the length of 42 feet and the width of 105 feet.



How much sod, in square yards, will he need to buy to cover his whole yard?

$$42 \text{ ft} = 42/3 \text{ yds}$$

$$= 14 \text{ yds}$$

$$105 \text{ ft} = 105/3 \text{ yds}$$

$$= 35 \text{ yds}$$

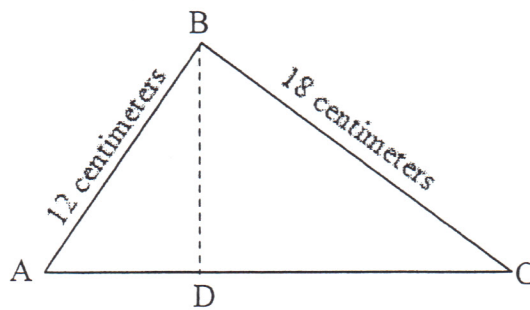
$$A = b \cdot h$$

$$A = 14 \cdot 35$$

$$A = 490$$

$$\underline{490 \text{ sq. yds}}$$

4. AC is twice as long as AB. BD is $\frac{2}{3}$ as long as BC. What is the area of triangle ABC?



$$AC = 12 \cdot 2 = 24 \text{ cm}$$

$$BD = 18 \cdot \frac{2}{3} = 12 \text{ cm}$$

$$\underline{144 \text{ sq cm}}$$

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(24)(12)$$

$$A = 144$$

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Event 3: Random Hat

1. The sum of the shapes of a picture (shown at the right) equals 22.
If $\bigcirc = 3$, $\triangle = 2$, and $\square = 5$,



then what does equal?

$$\left. \begin{array}{r} 5 + 5 \\ 3 + 3 \\ 2 \\ ? \end{array} \right\} \begin{array}{l} 18 + ? = 22 \\ ? = 4 \end{array}$$

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2. What is the sum of the missing numbers?

			1		1						
			1		2		1				
		1		3		3		1			
	1		4		\square		4		1		
	1		5		\square		10		5		1

1st box is 6
2nd box is 10

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3. Given that $A=1$, $B=2$, $C=3 \dots Z=26$
if $CAB = 3 + 1 + 2 = 6$, what does the phrase

TROY AND DAN equal?

$$20 + 18 + 15 + 25 + 1 + 14 + 4 + 4 + 1 + 14$$

$$20 + 18 + 15 + 25 + 1 + 14 + 4 + 4 + 1 + 14$$

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4. Troy wants 36 jelly beans. Dan will trade 3 jelly beans for one popsicle. Hannah will trade 2 popsicles for one cookie. How many cookies does Troy need to get 36 jelly beans?

$$\begin{array}{l} 3 J \rightarrow 1 P \\ 2 P \rightarrow 1 C \end{array}$$

He needs 12 popsicles
Therefore, he needs 6 cookies

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Event 4: Problem Solving

1. Drew buys two pizzas. Each pizza has eight slices. Troy ate four slices of pizza. Alex ate two and a half times more pizza than Troy. How many slices are left for Drew?

$$\begin{array}{l}
 16 \text{ slices} \\
 \text{Troy} \rightarrow 12 \text{ slices} \\
 \text{Alex ate } 2.5 \times 4 = 10 \text{ slices}
 \end{array}
 \qquad
 \begin{array}{r}
 \underline{2}
 \end{array}$$

2. Dan has 38% of all the hot dogs in Wisconsin. Josh has 29.2% of all the hot dogs in Wisconsin. If there are 5,287,699 hot dogs in Wisconsin, how many more hot dogs does Dan have than Josh? Round up to the nearest whole hot dog.

$$\begin{array}{r}
 5,287,699 \times .38 = 2,009,325.62 \\
 5,287,699 \times .292 = 1,544,008.108 \\
 2,009,325.62 - 1,544,008.108 \\
 \hline
 465,318
 \end{array}$$

3. Ryan just loves math. He studied for 16 minutes on Monday. He decided to increase the amount of time spent studying each day by 50%. How many minutes in total will he spend studying from Monday through Friday?

$$\begin{array}{l}
 \text{M} \rightarrow 16 \qquad \text{Th} \rightarrow 54 \\
 \text{T} \rightarrow 24 \qquad \text{F} \rightarrow 81 \\
 \text{W} \rightarrow 36
 \end{array}
 \qquad
 \begin{array}{r}
 \underline{211}
 \end{array}$$

4. Troy likes to go fast. He drives his new car at a constant speed of 65 miles per hour. If Troy keeps driving at that speed, how many seconds would it take for him to travel 585 miles?

$$\begin{array}{l}
 d = r \cdot t \\
 585 = 65 \cdot t \\
 9 = t
 \end{array}
 \qquad
 \begin{array}{r}
 9 \text{ hours} \\
 \times 60 \\
 \hline
 540 \text{ min} \\
 \times 60 \\
 \hline
 32400 \text{ sec}
 \end{array}
 \qquad
 \begin{array}{r}
 \underline{32,400}
 \end{array}$$