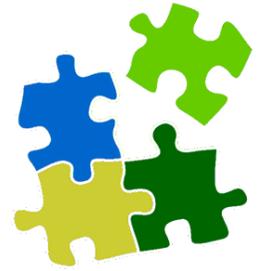


2018-19 Puzzle Contests

Contest #3



Grades 5up Puzzles:

1. Before Christmas, Santa Claus put the youngest of the three elves, Alabaster Snowball, Pepper Minstix and Shinny Upatree, in charge of toy packing. Determine which one was put in charge using the clues below. However beware that exactly one of the clues is false!

- Alabaster Snowball is older than Pepper Minstix
- Shinny Upatree is younger than Pepper Minstix
- The sum of the ages of Alabaster Snowball and Pepper Minstix is double the age of Shinny Upatree
- Shinny Upatree is older than Alabaster Snowball (Explain your answer!) (25 pts)



2. This Christmas Santa needs to deliver an awful lot of gifts.

The number of gifts is the 100-digit number with the highest (leftmost) digit 6. It is known that if the highest digit is erased, this number is reduced by a factor of 25. How many gifts does Santa need to deliver this year? (40 pts)



Solutions deadline is January 6

Please submit your solutions to anna.charny@metrowestschool.com
or bring them to the office

3. Little Gerda needs to free her younger brother Kai who is imprisoned by the Evil Snow Queen in an ice cave on cell #36 of the enchanted ice field. The ice field has the shape of a 6 x 6 chess board (see below). Snow Queen's guards are enchanted chess pieces. The only guard allowed to see Kai is the Knight, and to do so the Knight must travel the entire 6x6 ice field passing every single cell exactly once (using the chess knight move of course). Gerda's love for her little bother Kai melted the heard of the Ice Knight, and he allowed Gerda to secretly ride with him to Kai's cave. But Gerda must show him the moves to get to Kai. Some of the moves are shown in the picture below. Help Gerda restore the rest of the path to Kai's cell #36. (The number in the cell means the step number on which the Knight lands on that cell) (35 pts)

17				11	
2			25		
23	16	1			
30			19		
15			36	13	
8					35

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