

2008 Annual Meeting Daily Puzzle Challenge - Wednesday

The following puzzles are provided for your entertainment. We hope they provide an opportunity to talk a little math between sessions and while eating lunch. (Honestly, is there a better collection of tools for problem solving than a pen, a napkin, and a full stomach?)

- You may work on the puzzles alone or with a team. A team may consist of up to three people.
- You may use a calculator or other technology. (But before you start thinking that you can find the answers online, know that all puzzles herein were created uniquely for this contest.)
- Turn in your answers at the **Member Showcase** by **1:15pm** to be eligible for prizes.
- *Clearly indicate your answer for each puzzle.* No credit will be awarded if we cannot find your answer easily.
- List the names of all team members below, and give the contact information for your designated team captain.

Team Members

_____ (captain)

Contact Info

Email: _____ Phone: _____

The entry with the highest score will win a prize. In the event of a tie, the winner will be randomly selected from the top-scoring entries.



NATIONAL COUNCIL OF
TEACHERS OF MATHEMATICS

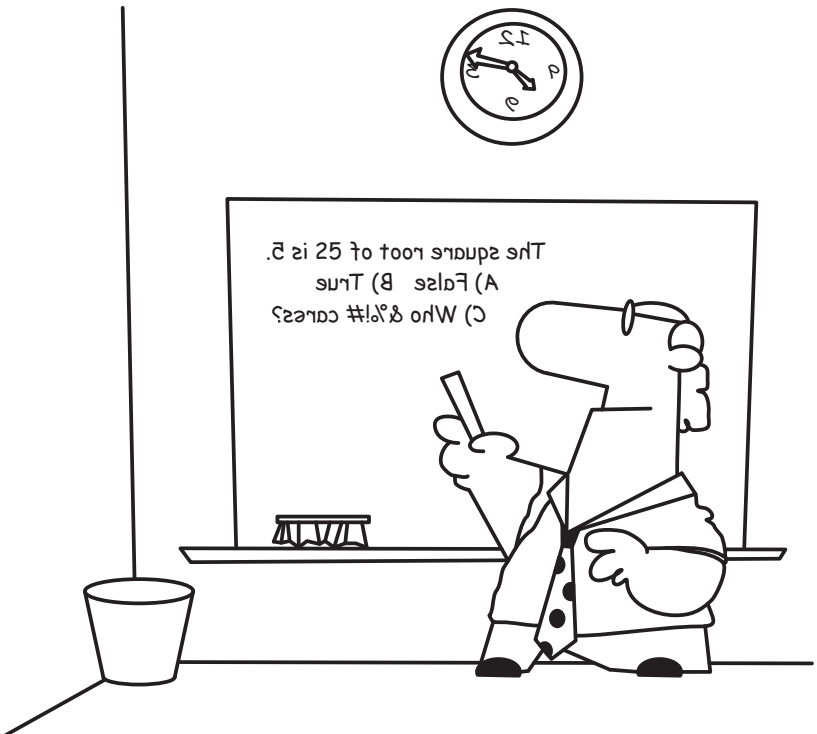
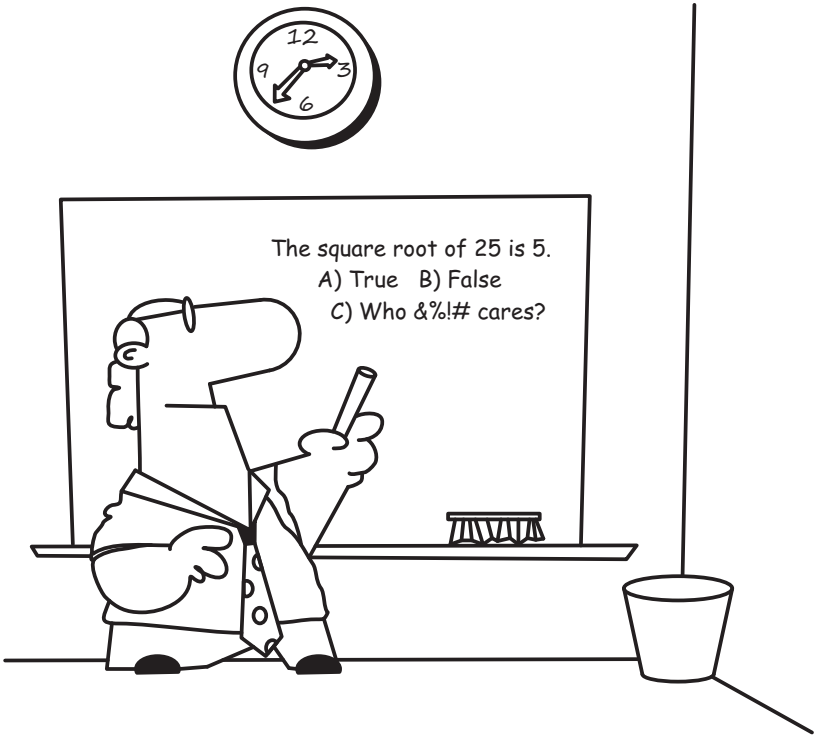
Man in the Mirror

Besides the obvious reflection, find all of the other differences between the two images.

Circle each difference that you find in the bottom image.

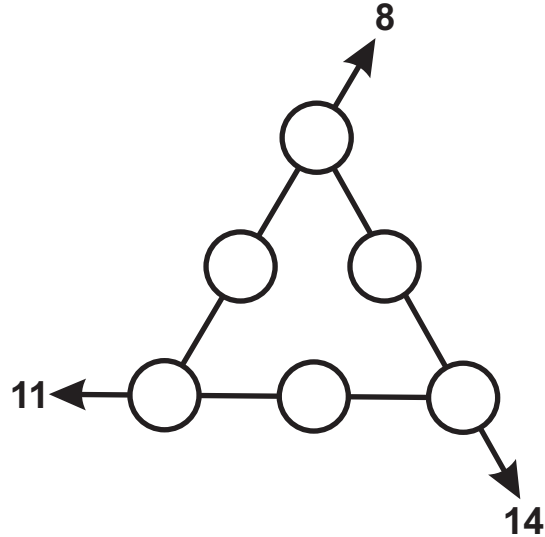
Scoring: 10 points for each difference identified

(Credit will not be given for differences that are circled in the top image.)



Number Triangle

Place the numbers 1-6, one per circle, so that the sums of the three segments are as indicated. Use each number exactly once.



Scoring: 70 points

A Blankety-Blank Puzzle

Fill in the blanks with numbers to make the following sentence true.

This sentence contains ____ 0's, ____ 1's, ____ 2's, ____ 3's, ____ 4's, ____ 5's, and ____ 6's.

Scoring: you may submit multiple solutions – 30 points for a “trivial” solution, and 50 points for each non-trivial solution

Double Vision

Two numbers — one of which is twice the value of the other — were displayed simultaneously on a calculator. That is, one number was displayed directly on top of the other. The result is shown in the diagram below. What are the two numbers?



Possible digits: 0 1 2 3 4 5 6 7 8 9

The two numbers are _____ and _____.

Scoring: 90 points

Solutions - Wednesday's Daily Puzzle Challenge

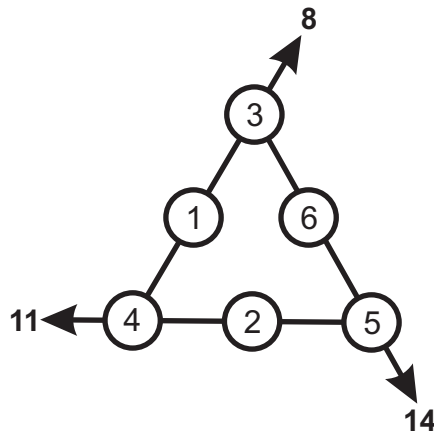
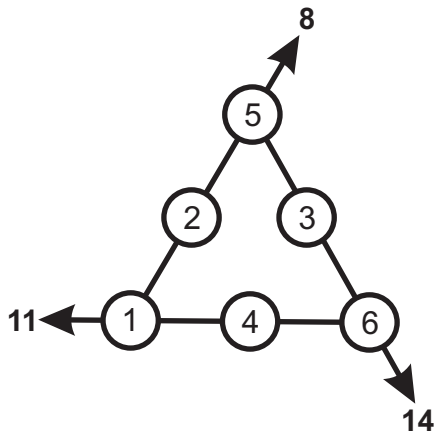
Man in the Mirror

There are ten differences in the bottom image:

1. The clock now shows 8:12 instead of 2:38.
2. The 6 on the clock is rotated 180°.
3. There is no shadow on the clock.
4. The 25 on the chalkboard is reversed.
5. The words True and False have changed places.
6. The letter 'e' in 'cares' is rotated 180°.
7. The chalk has a flat instead of oval top.
8. There are some lines missing in the eraser.
9. The polka dots on the tie are colored in.
10. The "c" is missing in the teacher's ear.

Number Triangle

There are two possible arrangements of the six numbers:



A Blankety-Blank Puzzle

Trivial: 1, 7, 1, 1, 1, 1, 1

Non-Trivial: 1, 4, 3, 2, 2, 1, 1

Double Vision

There are four sets of two numbers that could create the given image: 10,471 and 20,942; 10,571 and 21,241; 10,771 and 21,542; and, 10,971 and 21,942.