

Name:

Math Olympiad Deduction! – Problem Due: March 25, 2004

Logic Problems

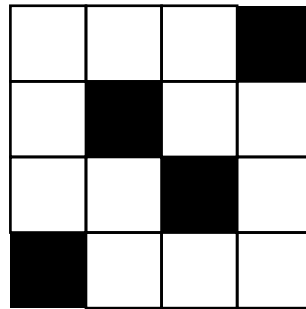
Here is a table of six letters. Each letter represents a one-digit number.

A	B	C
D	E	F

Can you figure out the values of letters A – F using only these clues?

- All are different one-digit numbers.
- The four corner numbers are all odd.
- $A \times B = 0$
- ABC is a three-digit number divisible by 3.
- $E = 2A$.
- $D - 2 = F$.

Here is a crossword that you fill with numbers instead of words. There are no zeroes that appear in the puzzle. Remember, a square number is a number that is another number multiplied by itself, like $9 = 3 \times 3$. Can you use your deductive powers to fill it in with two- and three-digit numbers to fit all eight clues?



Across:

1. Consecutive numbers in order.
3. An even square number.
5. An odd square number.
7. The square of a number between 10 and 20.

Down:

1. The sum of the first two digits equals the last digit.
2. Both digits are multiples of three.
4. Three copies of the same digit.
6. The difference of the digits is 8.

Hint: Start by writing down all two digit square numbers.

Hint: What digits need to be in 6 down?

Hint: The answer to 7 across is gross! (Look it up in the dictionary.)

Hint: Once you figure out 7 across, 4 down is easy.