

Olympiad - 3

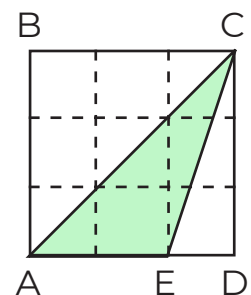
Name: _____

1) A stamp collector bought a rare stamp for \$30, sold it for \$42, bought it back for \$50, and finally sold it for \$48. Did the stamp collector make or lose money and how many dollars were made or lost?

2) The numbers M and N are different numbers selected from the first twenty-five counting numbers: 1, 2, 3, 4, ... 24, 25. If M is larger than N, what is the smallest value that the expression below can have?

$$\frac{M \times N}{M - N}$$

3) ABCD is a square which contains nine small congruent squares as shown. The area of square ABCD is 36 square units. What is the area of triangle ACE in square units?



4) A prime number is a whole number, greater than 1, that is only divisible by itself and 1. Some examples of prime numbers are 2, 3, 5, 7, 11 and 13. What is the largest prime number, P, such that 9 times P is less than 400?