

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 - MARCH 2015
ROUND 2 ALG1: EXPONENTS AND RADICALS**

ANSWERS

A) _____

B) _____

C) _____

A) Determine the largest integer value of k for which $\frac{-2^4 + (-8)^2}{2^k}$ is an integer.

B) $(\sqrt{5} - \sqrt{2})^4 = A - B\sqrt{10}$, where A and B are integers.

Compute $(A - B)^2$.

C) Given: $(x + y)^2 = 225(x - y)^{-2}$, where $\underline{x < y < 0}$.

Compute all possible integer ordered pairs (x, y) .