MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 - MARCH 2017
ROUND 2 ALGEBRA 1: EXPONENTS AND RADICALS

ANSWERS

A) _____

B) _____

C) _____

A) Find <u>all nonzero</u> integer values of k for which $8^{\frac{k}{2k-1}}$ is an integer.

B) Compute <u>all</u> values of x for which $\sqrt{(2x-1)(x+11)} = x+7$.

C) For positive integers x and y, $x+y=8$ and $2^{10x+y} + 2^{10y+x}$ is a multiple of 10.
Compute <u>all</u> possible values of $2^x + 2^y$.