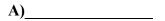
MASSACHUSETTS MATHEMATICS LEAGUE MARCH 2006 ROUND 2 ALGEBRA 1: RATIONAL EXPONENTS/RADICALS

ANSWERS



A) If
$$\sqrt{2^{3^2}} + \sqrt{2^{2^3}} = a + 8\sqrt{b}$$
, find the ordered pair (a, b) .

B) Express the sum below as a simplified radical:

$$\frac{2}{2\sqrt{2}+\sqrt{7}}+\frac{2}{\sqrt{7}+\sqrt{6}}+\frac{2}{\sqrt{6}+\sqrt{5}}+\frac{2}{\sqrt{5}+2}+\frac{2}{2+\sqrt{3}}+\frac{2}{\sqrt{3}+\sqrt{2}}$$

C) Solve for x:
$$\frac{(1/4)^{3x}}{2(4)^7} = (8^{x+4})^x$$