**MASSACHUSETTS MATHEMATICS LEAGUE**
**NOVEMBER 2005**
**ROUND 4 FACTORING**

**ANSWERS**

**A)**_____

**B)**_____

**C)**_____

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A) Given n is a positive integer and $x^2 + nx - 50$ is factorable. Find the sum of all possible values of n.

B) Factor completely over the integers: $6x^3 - 6 + 3x^2 - 12x$

C) Factor completely over the integers: $x^2 ( x^2 + x + 1 ) - (x^3 - 25 )$