



Math Olympiad and Problem Solving Programs  
G210 - Introductory Math Olympiad  
Problem Set 8.1 - Diophantine Equations

Name:

Date:

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1.  $\boxed{84 \text{ years}}$
2.  $\boxed{(x, y) = (4, 1)}$
3.  $\boxed{\text{No Solutions}}$
4.  $\boxed{(x, y) = (162 + 22k, -36 - 5k)}$
5.  $\boxed{26}$
6. (a)  $\boxed{(x, y) = (1, 6)}$  (b)  $\boxed{(x, y) \in \{(16, 2), (9, 20), (2, 38)\}}$  (c)  $\boxed{\{(-154 - 57k, -427 - 158k) : k \leq -3\}}$
7.  $\boxed{\$10.21}$
8.  $\boxed{(r, h, c) \in \{(4, 18, 78), (8, 11, 81), (12, 4, 84)\}}$
9.  $\boxed{B}$
10.  $\boxed{E}$