



Math Olympiad and Problem Solving Programs
E210 - Introductory Math Competitions
Problem Set 11.2 - Sum and Difference

Name:

Date:

1. $\boxed{9}$
2. $\boxed{A = 16, b = 12}$
3. $\boxed{m = 100, E = 94}$
4. $\boxed{26}$
5. Use sum and difference formulas. Since Anthony delivers less toys and Benjamin more, Benjamin is a sum. $B = \frac{6000 + 600}{2} = \boxed{3300}$
6. $\boxed{20}$
7. $\boxed{a = 4, c = 8}$
8. If they solve 7,600 in 8 months, then they solve $7600 \div 8 = 950$ per month. Then Joyce = $\frac{950+50}{2} = 500$, and Nicholas = $\frac{950-50}{2} = 450$. $\boxed{J = 500, N = 450}$
9. We know if Neil gives Jason 6 books, then Neil will have 2 less than Jason. So if Neil gives Jason 5 books, they will have the same. So the difference in amounts of books is 10. So Neil = $\frac{20+10}{2} = 15$, and Jason = $\frac{20-10}{2} = 5$. $\boxed{N = 15, J = 5}$
10. They will meet in 8 hours, so their combined speed is $40 \div 8 = 5$ mph. The difference in speeds is $5 \div 5 = 1$ mph. So Avantika = $\frac{5+1}{2} = 3$, and Connor = $\frac{5-1}{2} = 2$. $\boxed{A = 3, C = 2}$