



Math Olympiad and Problem Solving Programs
E120 - Honors Algebra Problem Solving
Problem Set 4.2 - SAT Review

Name:

Date:

1. C
2. C
3. Since p and q are prime numbers, the only numbers that can divide p are 1 and p , and for q , 1 and q . So the number pq can only be divided by 1, p , q , and pq . D
4. $\frac{y^3 + 1}{y^2} = \frac{y^3}{y^2} + \frac{1}{y^2} = y + \frac{1}{y^2}$. B
5. A
6. E
7. C
8. E
9. $5! = 120$
10. We have 4 choices for our first digit: 1, 2, 3, and 4. Now we have 4 choices left for the second digit, because we have five possible numbers and we used one for the first digit. We have 3 choices for the last digit since we used 2 of the 5 on the first two digits. So there are $4 \times 4 \times 3 = 48$ three digit numbers. D