



Math Olympiad and Problem Solving Programs

E120 - Honors Algebra Problem Solving

Problem Set 1.3 - Algebra Expressions Challenge Solutions

Name:

Date:

1. \boxed{E} . If $2 \cdot \frac{x}{y} \cdot y^2 = 2xy = 20$.
2. \boxed{C} . Let the greater number be x . $x + x - 1 = 2x - 1 = t$, which means $2x = t + 1$ or $x = \frac{t + 1}{2}$.
3. \boxed{A} .
4. \boxed{E} .
5. \boxed{B} . Note that 1 foot = 12 inches. Each post requires $4 \times 6 = 24$ inches or 2 feet. Then, the tape left was $300 - 2n$.
6. $26(64) - 24(64) = 64 \times (26 - 24) = \boxed{128}$
7. $0.125 = 2^{-3}$, $1024 = 2^{10}$. $\frac{\frac{1}{2} \times 1024}{0.125 \times 2^{12}} = \frac{2^{10}}{2 \times 2^{-3} \times 10^{12}} = \boxed{1}$.
8. $\boxed{1}$.
9. $[a - (b - c)] - [(a - b) - c] = a - b + c - a + b + c = \boxed{2c}$.
10. $\otimes = \div$, $\oslash = \times$. $\frac{8 \otimes 4}{1 \oslash 2} = \frac{8 \div 4}{1 \times 2} = \boxed{1}$.