

ALGEBRA I (10th GRADE)
Math Field Day 2012

School _____

Name _____

INSTRUCTIONS: Write your answer in the space to the right of the problem number. All answers should be expressed in exact or in simplified form unless otherwise directed.

1. _____ Find the slope the line perpendicular to the line $2x + 4y = 6$.

2. _____ Solve for v: $7v + 38 = 4(v + 5)$.

3. _____ Solve the inequality for u: $-12 < 8 - 9u$.

4. _____ Simplify the expression: $\frac{|2-8|-|-10+4|}{-|7-4|}$

5. _____ Evaluate: $(-|(-9)|)$.

6. _____ Solve for x: $\frac{1}{2}x - 2(1 - \frac{4}{5}x) = 10 - 18x$

7. _____ Simplify: $\left(\frac{4x^2}{y^{-8}z}\right)^{-2}$

8. _____ Solve for y: $\frac{y}{10} = (-8)^2 - |20| + (-2)^2$

9. _____ Simplify $\frac{x+2}{7-x} \div \frac{x^2-5x+6}{x^2-9x+14}$

10. _____ Solve $6y - 3yz = x$ for z.

11. _____ Factor completely: $3u^2x^4 - 48u^2$

12. _____ The Obama family drove to Disneyland at 70 miles per hour and returned on the same route at 40 miles per hour. Find the distance to Disneyland if the total driving time was $24\frac{3}{4}$ hours.