

Unit 4: Expressions and More Equations

ADVANCED

Name: _____ Date: _____

Solve each problem and write your exact answer. Show work on your own paper; give fractions in lowest terms (e.g., $\frac{3}{4}$) and use "all real numbers" or "no solution" where they apply.

1. Solve for x: $5(2x - 3) - 4(x + 2) = 3(x - 1) + 10$.

Answer: _____

3. Solve for x: $6(x - 2) + 4 = 2(3x - 4)$. If there are infinitely many solutions write 'all real numbers'; if none write 'no solution'.

Answer: _____

5. Solve for x: $(\frac{2}{3})x - (\frac{1}{4}) = (\frac{1}{6})x + (\frac{5}{12})$.

Answer: _____

7. Solve for x: $4(3x - 5) - 6(2x + 1) = -2(x + 7) - 12$.

Answer: _____

9. Solve for x: $9(x - 4) + 2 = 3(2x - 5) + 3x - 19$. If there are infinitely many solutions write 'all real numbers'; if none write 'no solution'.

Answer: _____

2. Solve for x: $7x - 2(3 - x) = 4x + 5(x - 1)$. If there are infinitely many solutions write 'all real numbers'; if none write 'no solution'.

Answer: _____

4. Write the coefficient of x after fully expanding and combining like terms: $-3(2x - 5) + 4(x - 2)(1) - (x - 6)$. (The expression simplifies to $ax + b$; give the value of a.)

Answer: _____

6. Solve for x: $8 - 3(2x - 1) = 5 - (4x - 6)$.

Answer: _____

8. The expression $5(2x + 3) - (4x - 7)$ simplifies to $ax + b$. Compute $a + b$.

Answer: _____