

Name _____

Solving Equations MEGA-Quiz

For problems 1-9, solve the equation for the variable. If the equation is an identity or there is no solution, write “identity” or “no solution.” **Show all work, line by line.**

1) $8f = 32$

2) $w + 7 = 4$

3) $7y + 5 - 3y = -31$

4) $6(w - 5) - 3w = 12$

5) $\frac{2h - 6}{6} = \frac{2}{3}$

6) $18x + 6 = 3(6x + 1)$

7) $4(w - 3) - w = 3(w - 4)$

8) $4(2 - 4y) = 8y + 36$

9) $3(x+8)+5x=2(12+4x)$

10) Solve and justify each step.

$$6x - 7 = -19$$

11) Solve for y in the following equation:

$$x = \frac{y - z}{5}$$

12) Tickets to the movie theater for three adults and two children cost \$31.00. An adult's ticket costs \$4.50 more than a child's ticket. What is the cost of an adult's ticket?

13) Two teams of scientists leave a university at the same time in special vans to search for tornadoes. The first team travels east at 20 mph and the second team travels west at 30 mph. Their radios have a range of 125 miles. How much time will pass before the scientists lose radio contact?