

#6

$$8(x+2) = 2x + 6x$$

$$8x + 16 = 8x$$

$$8x - 8x = -16$$

$$0 = -16$$

NO SOLUTION  
"CONTRADICTION"

#7

$$4(w+1) - 5w = 5(w+2) + 6(-1-w)$$

$$4w + 4 - 5w = 5w + 10 - 6 - 6w$$

$$-w + 4 = -w + 4$$

$$-w + w = 4 - 4$$

$$0 = 0$$

IDENTITY

#8

$$\frac{9x-1}{4} - \frac{5x-1}{2} = \frac{7}{3}$$

$$\frac{3}{3} \left( \frac{9x-1}{4} \right) - \frac{6}{6} \left( \frac{5x-1}{2} \right) = \frac{4}{4} \left( \frac{7}{3} \right)$$

$$\frac{27x-3}{4} - \frac{30x+6}{6} = \frac{28}{3}$$

$$-3x + 3 = \frac{28}{3}$$

$$-3x = \frac{28}{3} - 3$$

$$-3x = \frac{25}{3}$$

$$\frac{-3x}{-3} = \frac{\frac{25}{3}}{-3}$$

$$x = \frac{-25}{9}$$

CONDITIONAL