

Scavenger Hunt

Directions:

1. Begin at the poster as instructed by teacher.
2. Solve the problem on the poster.
3. Find the other poster that has the answer to the problem you just solved.
4. Repeat steps 2 and 3 until you have been to every poster.
5. Be sure to show all work and record the order in which you traveled from poster to poster.

Poster A

Work:

$$\begin{aligned}
 -x + 6 + 7x - 18 - 4x &= -3(3x - 4) + 4(8 + x) \\
 2x - 12 &= -9x + 12 + 32 + 4x \\
 2x - 12 &= -5x + 44 \\
 +5x & \quad +5x \\
 \hline
 7x - 12 &= 44 \\
 +12 & \quad +12 \\
 \hline
 7x &= 56 \quad \rightarrow \quad x = \frac{56}{7} \quad \boxed{x=8}
 \end{aligned}$$

Poster F

Work:

$$\begin{aligned}
 9x - (4x - 1) &= 8x + 27 \\
 9x - 4x + 1 &= 8x + 27 \\
 5x + 1 &= 8x + 27 \\
 -5x & \quad -5x \quad -27 \quad -27 \\
 \hline
 -26 &= 3x \\
 \frac{-26}{3} &= \frac{3x}{3} \quad \boxed{x = \frac{-26}{3}}
 \end{aligned}$$

Poster I

Work:

$$\begin{aligned}
 24 &= 10x + 16 - 8x - 16 \\
 24 &= 2x \\
 \frac{24}{2} &= \frac{2x}{2} \\
 \boxed{12} &= x
 \end{aligned}$$

Poster C

Work:

$$\begin{aligned}
 \frac{2x - 5}{10} &= 4 \cdot 10 \rightarrow 2x - 5 = 40 \\
 +5 & \quad +5 \\
 \hline
 2x &= 45 \\
 \frac{2x}{2} &= \frac{45}{2} \\
 \boxed{x = 22.5}
 \end{aligned}$$

Poster G

Work:

1st #: x
2nd #: $x + 1$

$$\begin{aligned}
 x + (x + 1) &= 57 \\
 2x + 1 &= 57 \\
 -1 & \quad -1 \\
 \hline
 2x &= 56 \\
 \frac{2x}{2} &= \frac{56}{2} \quad \boxed{x=28}
 \end{aligned}$$

Poster D

Work:

$$\begin{aligned}
 10x &= 8x + 39 + 5x \\
 10x &= 13x + 39 \\
 -13x & \quad -13x \\
 \hline
 -3x &= 39 \\
 \frac{-3x}{-3} &= \frac{39}{-3} \quad \boxed{x = -13}
 \end{aligned}$$

Poster H

Work:

$$\begin{aligned}
 \frac{1}{3}x + 10 &= \frac{3}{4}x - 10 \\
 \downarrow & \quad \downarrow \\
 \frac{4}{12}x + 10 &= \frac{9}{12}x - 10 \\
 -\frac{4}{12}x & \quad -\frac{4}{12}x \\
 \hline
 10 &= \frac{5}{12}x - 10 \\
 +10 & \quad +10 \\
 \hline
 20 &= \frac{5}{12}x \\
 \left(\frac{12}{5}\right)20 &= \frac{5}{12}x \left(\frac{12}{5}\right) \\
 \boxed{48} &= x
 \end{aligned}$$

Poster B

Work:

$$\begin{aligned}
 \text{Anthony} & \quad \text{Joseph} \\
 56 + 12x &= 80 + 8x \\
 -8x & \quad -8x \\
 \hline
 56 + 4x &= 80 \\
 -56 & \quad -56 \\
 \hline
 4x &= 24 \\
 \frac{4x}{4} &= \frac{24}{4} \quad \boxed{x=6}
 \end{aligned}$$

Poster E

Work:

$$\begin{aligned}
 -8(x - 6) &= 32 \\
 -8x + 48 &= 32 \\
 -48 & \quad -48 \\
 \hline
 -8x &= -16 \\
 \frac{-8x}{-8} &= \frac{-16}{-8} \\
 \boxed{x=2}
 \end{aligned}$$

Poster J

Work:

$$\begin{aligned}
 4 + (3x - 7) + 4 + (3x - 7) &= 36 \\
 6x - 6 &= 36 \\
 +6 & \quad +6 \\
 \hline
 6x &= 42 \\
 \frac{6x}{6} &= \frac{42}{6} \quad \boxed{x=7}
 \end{aligned}$$