

Name: \_\_\_\_\_

## Solving Multi-Step Equations

# Why didn't the skeleton want to go to school?

Directions: Solve each of the multi-step equations. Then write the letter above the corresponding answer to find out why the skeleton didn't want to go to school.

A.  $8(x - 5) = 64$

H.  $15 + 7x = -4x - 7$

E.  $7(x - 3) = 6x + 2$

W.  $2(3x + 3) = 6x + 9$

T.  $8x - 7 = 4x + 17$

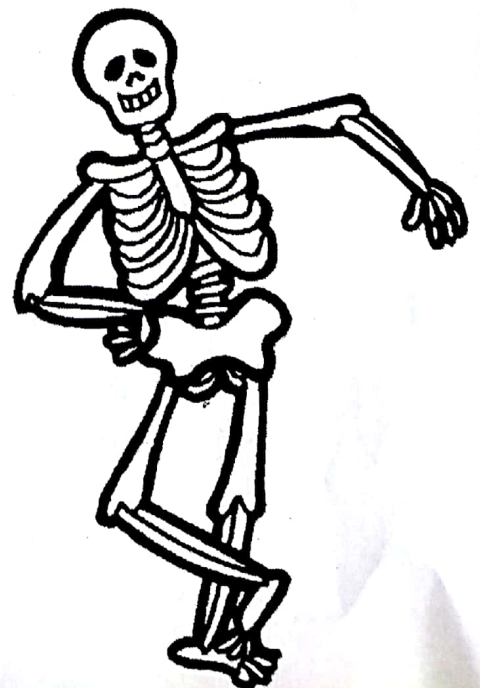
R.  $6x - 2(3 + 3x) = -6$

I.  $5(x - 8) - (x + 6) = 18$

S.  $-0.5(x - 4) = -x - 5$

N.  $2(10 - 4x) = -2(6 + 2x)$

<u>H</u>	<u>I</u>	<u>S</u>	<u>H</u>	<u>E</u>	<u>A</u>	<u>R</u>	<u>T</u>
-2	16	-14	-2	23	13	18	6
<u>W</u>	<u>A</u>	<u>S</u>	<u>N</u>	<u>T</u>			
<del>8</del>	13	-14	8	6			
<u>I</u>	<u>N</u>		<u>I</u>	<u>T</u>			
16	8		16	6			



# Skeleton Worksheet Work

$$\begin{aligned} \text{A. } 8(x-5) &= 64 \\ 8x - \cancel{40} &= 64 \\ +\cancel{40} \quad +40 & \\ \hline 8x &= 104 \\ \frac{8x}{8} &= \frac{104}{8} \\ \boxed{x} &= \boxed{13} \end{aligned}$$

$$\begin{aligned} \text{H. } 15 + 7x &= -4x - 7 \\ +4x \quad +4x & \\ \hline \cancel{15} + 11x &= -7 \\ -15 & \\ \hline 11x &= -22 \\ \frac{11x}{11} &= \frac{-22}{11} \\ \boxed{x} &= \boxed{-2} \end{aligned}$$

$$\begin{aligned} \text{E. } 7(x-3) &= 6x + 2 \\ 7x - 21 &= \cancel{6x} + 2 \\ -6x \quad -6x & \\ \hline x - 21 &= 2 \\ +21 \quad +21 & \\ \hline \boxed{x} &= \boxed{23} \end{aligned}$$

$$\begin{aligned} \text{W. } 2(3x+3) &= 6x + 9 \\ 6x + 6 &= 6x + 9 \\ -6x \quad -6x & \\ \hline 6 &= 9 \\ 6 &\neq 9 \\ \text{No Solution} & \\ \emptyset & \end{aligned}$$

$$\begin{aligned} \text{T. } 8x - 7 &= 4x + 17 \\ -4x \quad -4x & \\ \hline 4x - 7 &= 17 \\ +7 \quad +7 & \\ \hline 4x &= 24 \\ \frac{4x}{4} &= \frac{24}{4} \\ \boxed{x} &= \boxed{6} \end{aligned}$$

$$\begin{aligned} \text{R. } 6x - 2(3+3x) &= -6 \\ \cancel{6x} - 6 - \cancel{6x} &= -6 \\ -6 &= -6 \\ \text{Infinite Solution} & \\ \mathbb{R} & \end{aligned}$$

$$\begin{aligned} \text{I. } 5(x-8) - 1(x+6) &= 18 \\ 5x - 40 - x - 6 &= 18 \\ 4x - 46 &= 18 \\ +46 \quad +46 & \\ \hline 4x &= 64 \\ \frac{4x}{4} &= \frac{64}{4} \\ \boxed{x} &= \boxed{16} \end{aligned}$$

$$\begin{aligned} \text{S. } -0.5(x-4) &= -x - 5 \\ -0.5x + 2 &= -x - 5 \\ +0.5x \quad +0.5x & \\ \hline 2 &= -0.5x - 5 \\ +5 & \\ \hline 7 &= -0.5x \\ \frac{7}{-0.5} &= \frac{-0.5x}{-0.5} \\ \boxed{x} &= \boxed{-14} \end{aligned}$$

$$\begin{aligned} \text{N. } 2(10-4x) &= -2(6+2x) \\ 20 - 8x &= -12 - \cancel{4x} \\ +4x \quad +4x & \\ \hline \cancel{20} - 4x &= -12 \\ -20 & \\ \hline -4x &= -32 \\ -4 & \\ \hline \boxed{x} &= \boxed{8} \end{aligned}$$