

Name: _____

Date: _____

**SOLVING EQUATIONS
HOMEWORK**

1. In the expression $\frac{x}{5} - 3$ which is the correct order in which operations have been done to x ?

- ✓ (1) x was divided by 5 and the result was subtracted from 3
- ~~(2) x had 3 subtracted from it and the result was then divided by 5.~~
- ✓ (3) x was divided by 5 and 3 was subtracted from the result
- ~~(4) 5 was divided by x and then 3 was subtracted from the result.~~

2. Which of the following is the solution to $6x + 1 = 4$? Show the steps or explain how you found the solution.

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

$$\begin{array}{r} -1 \\ 6x + 1 \\ \hline 6x + 3 \\ \hline x = \frac{3}{6} = \frac{1}{2} \end{array}$$

3. The solution to $5(x - 2) - 6 = 24$ is which of the following? Show the steps in your solution process.

- (1) $x = 7$
- (2) $x = -12$
- (3) $x = -3$
- (4) $x = 8$

$$\begin{array}{l} 5(x - 2) - 6 = 24 \\ \quad \quad \quad +6 \quad \quad +6 \\ \hline 5(x - 2) = 30 \\ 5x - 10 = 30 \\ \quad \quad \quad +10 \quad \quad +10 \\ \hline 5x = 40 \\ \quad \quad \quad \div 5 \quad \quad \div 5 \\ \hline x = 8 \end{array}$$

APPLICATIONS

4. If a number is increased by five and the result is then divided by three, the result is seven. Write an equation that models this verbal description and solve the equation for the number described.

$$\frac{x+5}{3} = 7 \cdot 3 \quad \rightarrow \quad x + 5 = 21$$

$$\begin{array}{r} x + 5 = 21 \\ -5 \\ \hline x = 16 \end{array}$$

5. Max and his friend Zeke are comparing their ages. They figure out that if they double Max's age from 3 years ago and add it to Zeke's current age, the sum is 26. If Zeke is currently 8 years old, determine how old Max currently is.