

## MAT.08.SR.1.000EE.D.201

Sample Item ID:	<b>MAT.08.SR.1.000EE.D.201</b>
Grade:	08
Claim(s):	<b>Claim 1: Concepts and Procedures</b> Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.
Assessment Target(s):	<b>1 D:</b> Analyze and solve linear equations and pairs of simultaneous linear equations.
Content Domain:	Equations and Expressions
Standard(s):	8.EE.7
Mathematical Practice(s):	1, 7, 8
DOK:	2
Item Type:	SR
Score Points:	1
Difficulty:	M
Key:	B,C
Stimulus/Source:	
Target-Specific Attributes (e.g., accessibility issues):	
Notes:	Calculator tool should be turned on for this item.

Three students solved the equation  $3(5x - 14) = 18$  in different ways, but each student arrived at the correct answer. Select **all** of the solutions that show a correct method for solving the equation.

$$\begin{aligned} \textcircled{\text{A}} \quad & 3(5x - 14) = 18 \\ & 8x - 14 = 18 \\ & \quad + 14 \quad + 14 \\ & \frac{8x}{8} = \frac{32}{8} \\ & x = 4 \end{aligned}$$

$$\begin{aligned} \textcircled{\text{B}} \quad & \frac{1}{3} \cdot \cancel{3}(5x - 14) = 18 \cdot \frac{1}{3} \\ & 5x - 14 = 6 \\ & \quad + 14 \quad + 14 \\ & \frac{5x}{5} = \frac{20}{5} \\ & x = 4 \end{aligned}$$

$$\begin{aligned} \textcircled{\text{C}} \quad & 3(5x - 14) = 18 \\ & \frac{15x}{15} - \frac{42}{15} = \frac{18}{15} \\ & \quad + \frac{42}{15} \quad + \frac{42}{15} \\ & x = \frac{60}{15} \\ & x = 4 \end{aligned}$$

*Key and Distractor Analysis:*

- A. This solution is the simplest to follow, but the method is incorrect.
- B. Key. Although the method in this solution is correct, it is not the most commonly used method for solving equations like this, so students may think it is incorrect.
- C. Key. Although the method in this solution is correct, it is not the most commonly used method for solving equations like this, so students may think it is incorrect.