



Solve the problems.

**1** How many solutions does the equation  $2(2x - 10) - 8 = -2(14 - 3x)$  have?

- A** exactly one solution
- B** exactly two solutions
- C** no solution
- D** infinitely many solutions

**2** How many solutions does the equation  $10 - 3x + 10x - 7 = 5x - 5 + 2x + 8$  have?

- A** exactly one solution
- B** exactly two solutions
- C** no solution
- D** infinitely many solutions

**3** For each linear equation in the table, shade in the appropriate box to indicate whether the equation has no solution, only one solution, or infinitely many solutions.

Equation	No Solution	Only One Solution	Infinitely Many Solutions
$8x + 16 = 8x - 16$			
$-3x - 17 = -(17 + 3x)$			
$9x + 27 = 27$			
$2x - 6 = 6 + 2x$			

**4** Which equation has an infinite number of solutions? Select all that apply.

- A**  $3x - 2(x + 10) = x - 20$
- B**  $5x + 2(x - 3) = 5x + 2(3 - x)$
- C**  $\frac{x}{2} + 1 = \frac{3x}{10} + 3$
- D**  $\frac{5}{2}x - 2 = \frac{9}{2}x - 2(x + 1)$
- E**  $\frac{7}{2}x + x = x + \frac{7}{4}$



**5** Consider the equation  $2(5x - 4) = ax + b$ .

**Part A**

Find a value for  $a$  and a value for  $b$  so that the equation has only one solution. Explain your reasoning.

**Show your work.**

$$a = \underline{\hspace{2cm}}$$

$$b = \underline{\hspace{2cm}}$$

**Part B**

Find a value for  $a$  and a value for  $b$  so that the equation has no solution. Explain your reasoning.

**Show your work.**

$$a = \underline{\hspace{2cm}}$$

$$b = \underline{\hspace{2cm}}$$

**Part C**

Find a value for  $a$  and a value for  $b$  so that the equation has infinitely many solutions. Explain your reasoning.

**Show your work.**

$$a = \underline{\hspace{2cm}}$$

$$b = \underline{\hspace{2cm}}$$



**Self Check**

**Go back and see what you can check off on the Self Check on page 99.**