Solve Linear Equations with Rational Coefficients

Solve the problems.

Claire wants to solve the equation $-\frac{1}{4}(x-1) = \frac{2}{3}x + 2$. Which step would not be an appropriate first step for Claire to take to solve for x?



- **B** Use the distributive property to distribute $-\frac{1}{4}$.
- **C** Add 1 to both sides.
- **D** Multiply both sides by $\frac{3}{2}$.

What techniques can you use to simplify the equation?



2 Solve the equation for x: $3x - 5 = \frac{1}{2}x + 2x$. **Show your work.**

What operations can you use to simplify both sides of the equation?

How can you check

your answer?

In the equation below, for what value of c does x = 4? $\frac{1}{2}(2x + 4) = 3x - c$

Solution: __

C 3

B −3

D 6

Jenn chose **C** as the correct answer. How did she get that answer?

Solve.

4 Choose Yes or No to tell whether the equation has the given solution.

a. 2x + 4 = 3x - 2; x = 6

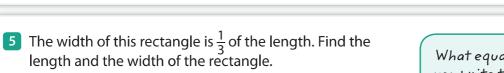
| Yes | No |
|-----|----|
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b. $\frac{1}{4}x + 3 = \frac{3}{4}x + 1; x = 8$ Yes Yes

d. $\frac{2}{3}(3x+6)=3x-4; x=8$

| l l Yes | l l No |
|---------|--------|

How can you use substitution to solve this problem?



(2y + 6) in.

$$(y - 4)$$
 in.

Show your work.

What equation can you write to solve the



Solution: _____