

Lesson 7: Explaining Steps for Rewriting Equations

Cool Down: If This, Then That

1. The equation $4(x - 2) = 100$ is a true equation for a particular value of x . Explain why $2(x - 2) = 50$ is also true for the same value of x .

2. To solve the equation $7.5d = 2.5d$, Lin divides each side by $2.5d$, and Elena subtracts $2.5d$ from each side.
 - a. Will both moves lead to the solution? Explain your reasoning.

 - b. What is the solution?

Learning goals:

- Explain (orally and in writing) why performing certain operations on an equation may create equivalent equations but performing other operations may not.
- Understand that dividing by a variable is not used in solving equations because it can lead to equations that have fewer solutions than the original equation.
- Understand that equations that are not true for any value of the variable(s) do not have solutions.

Lesson 5: Squares and Circles

Cool Down: Center and Radius

Find the center and radius of the circle with this equation: $x^2 + 16x + 64 + y^2 - 2y + 1 = 144$

Learning goal:

-Calculate and interpret trinomials in expanded and factored form in equations for circles.

Lesson 11: Finding Intersections

Cool Down: Find Some More Points

Find all points of intersection between the graphs of the functions $f(x) = (x + 5)(x - 4)$ and $g(x) = x + 5$.

Learning goal:

-Calculate the solution to a system of polynomial equations.