NAME _____

Lesson 2.4 Using Roots to Solve Equations

Equations with exponential variables can be solved using the inverse operation. In this case, using exponents will help to solve the problem.

$\sqrt{x} = 6$ **Step 1:** Evaluate the problem to decide which exponent to use. In this case, since we are solving for the square root, the appropriate exponent to use will be 2 (or square).

$(\sqrt{x})^2 = 6^2$ **Step 2:** Square both sides of the equation.

$x = 36$ **Step 3:** Solve the problem.

Solve each problem by using roots. Show your work and write fractions in simplest form.

	a	b	c
1.	$\sqrt{x} = 25$	$5 = \sqrt{x}$	$\sqrt[3]{x} = 6$
	$x =$ _____	$x =$ _____	$x =$ _____
2.	$\sqrt{x - 4} = 4$	$\sqrt[3]{x} = 19$	$7 = \sqrt{x}$
	$x =$ _____	$x =$ _____	$x =$ _____
3.	$\sqrt[3]{78 - x} = 4$	$18 = \sqrt{x}$	$6 = \sqrt{42 - x}$
	$x =$ _____	$x =$ _____	$x =$ _____
4.	$8 = \sqrt[3]{x - 6}$	$\sqrt{x} = 14$	$7 = \sqrt[3]{x}$
	$x =$ _____	$x =$ _____	$x =$ _____