Finding square roots and cube roots of perfect squares and cubes by recognizing which numbers are perfect squares and which are cubes, or both, Practice Set C

Name:

Date:

1. Find the next two perfect 6^{th} numbers after 4096.

a. Explain your steps in words and identify the square and cube root of the number.

2. Write an explanation of what a perfect 6^{th} is for a student who is having trouble understanding. Make sure you include an easy way to find a number that is a perfect 6^{th} and how to check it.

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Answer Key

1. Find the next two perfect 6^{th} numbers after 4,096.

a. Explain your steps in words and identify the square and cube root of the number.

The next two perfect 6^{th} numbers after 4,096 are 15,625 and 46,656.

I started with 5 because I already know that 4,096 is the perfect 6^{th} of 4, and I found that when I raise 5 to the 6^{th} power I get 15,625. Then I took the square root if 15,625 and got 125, and the cube root is 25.

The next perfect 6^{th} is 46,656 because that is 6 raised to the 6^{th} power. The square root is 216 and the cube root is 36.

2. Write an explanation of what a perfect 6^{th} is for a student who is having trouble understanding. Make sure you include an easy way to find a number that is a perfect 6^{th} and how to check it.

A perfect 6^{th} is a number that has both a square root and a cube root. That means that the number is a perfect square and a perfect cube. You find a perfect 6^{th} by raising any number to the 6^{th} power. You can check your work by making sure the number has a square root and a cube root.