

Which of the following is a rational number?

- a. $\sqrt{6}$, $\sqrt{5}$, $\sqrt{4}$, $\sqrt{12}$
 b. $\sqrt{5}$
 c. $\sqrt{6}$
 d. $\sqrt{4}$

If $(3^3)^x = 3^{15}$, what is the value of x?

- a. 5
 b. 8
 c. 4
 d. 3

There are $(5^4)^4$ • 5^4 candies in the store. How many candies are in the store?

- a. 5^{17}
 b. 5^{19}
 c. 5^{18}
 d. 5^{20}

Which expression is equivalent to $10^2 \bullet 10^{-6}$?

- a. 10^{-3}
 b. 10^{-4}
 c. 10^{-1}
 d. 10^{-2}

Which expression is equivalent to $h^{-m} \div h^k$?

- a. h^{-m-k}
- b. $h^{-m} \div k$
- c. h^{-m+k}
- d. $h^{-m} \bullet k$

Find a rational number and an irrational number that are between 5.5 and 7.2.
Include the decimal approximation of the irrational number to the nearest hundredth.

Johnny and Billy are multiplying $(5^8 \bullet 6^8)(5^8 \bullet 6^9)$

Johnny's Work	Billy's Work
$(5^8 \bullet 6^8)(5^8 \bullet 6^9)$	$(5^8 \bullet 6^8)(5^8 \bullet 6^9)$
$= (5^8 + 8)(6^8 + 9)$	$= (5^8 \times 8)(6^8 \times 9)$
$= 5^{16} 6^{17}$	$= 5^{64} 6^{72}$

Is either correct? Explain.

- If $(3^4)^x = 3^{20}$, what is the value of x?
- a. 5
 - b. 4
 - c. 3
 - d. 8