Radicals Homework – Homework: Radicals*

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Abstract

This module provides practice problems related to radicals.

For the following problems, I am not looking for big long ugly decimals—just simplified expressions. You should not have to use your calculator at all, except possibly to check your answers. Remember, you can always check your answer by squaring back!

Exercise 1
$\sqrt{64}$

Exercise 2
$\sqrt[3]{64}$

Exercise 3
$3\sqrt{64}$

Exercise 4
$-\sqrt{64}$

Exercise 5
$\sqrt{-64}$

Exercise 6
$\sqrt[3]{-64}$

Exercise 7
If $\sqrt[n]{-\mathrm{x}}$ has a real answer, what can you say about n?

Exercise 8
$\sqrt{8}$

Exercise 9
$\sqrt{18}$

Exercise 10
$\sqrt{48}$

Exercise 11
$\sqrt{70}$

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Exercise 12
$\sqrt{72}$

Exercise 13
$\sqrt{100}$

Exercise 14
$\sqrt{\frac{1}{4}}$

Exercise 15
$\sqrt{\frac{4}{9}}$

Exercise 16
$\sqrt{\frac{8}{12}}$

Exercise 17
$\sqrt{16x^2}$

a. Simplify as much as possible (just like all the other problems)
b. Check your answer with $x = 3$. Did it work?

Exercise 18
$\sqrt{(16x)^2}$

Exercise 19
$\sqrt{x^{10}}$

Exercise 20
$\sqrt{x^{11}}$

Exercise 21
$\sqrt{75x^3y^6z^5}$

Exercise 22
$\sqrt{x^2y^2}$

Exercise 23
$\sqrt{x^2 + y^2}$

Exercise 24
$\sqrt{x^2 + 2xy + y^2}$

Exercise 25
$\sqrt{x^2 + 9}$

Exercise 26
$\sqrt{x^2 + 6x + 9}$

Say, remember inverse functions?

Exercise 27
$f(x) = x^2$

a. Find the inverse of the function.
b. Test it.

Exercise 28
$f(x) = x^3$

a. Find the inverse of the function.
b. Test it.

Exercise 29
$f(x) = 3^x$

a. Find the inverse of the function.
b. Test it.