

WeBWork Assignment Homework04 is due : 05/21/2016 at 04:06pm EDT.

Reference: Axler, Precalculus, 2nd ed, Sections 2.4, 2.5, and 3.1

Here's the list of **functions and symbols** that WeBWork understands.

1. (1 pt) Evaluate the following expression without using a calculator. Simplify your answer as much as possible, and enter your answer as a fraction.

$$\left(\frac{8}{27}\right)^{-1/3} = \underline{\hspace{2cm}}$$

2. (1 pt) Simplify the following expression as much as possible. Assume that all variables are positive.

$$\sqrt[4]{36x^5} \sqrt[4]{36x^3} = \underline{\hspace{2cm}}$$

3. (1 pt) The expression

$$\left(\frac{x^5 y}{y^4}\right)^{2/3}$$

equals x^r/y^t where
r, the exponent of x, is: $\underline{\hspace{2cm}}$
t, the exponent of y, is: $\underline{\hspace{2cm}}$

4. (1 pt) Change the radical

$$\sqrt{\frac{5}{8}}$$

into simplest radical form $\frac{A}{B}\sqrt{C}$, where A, B, and C are all integers.

Answer: A = $\underline{\hspace{1cm}}$, B = $\underline{\hspace{1cm}}$, and C = $\underline{\hspace{1cm}}$

5. (1 pt) Find the product

$$(2\sqrt{x} - 6\sqrt{y})(2\sqrt{x} + 6\sqrt{y})$$

and express your answer in simplest radical form.

Answer: $\underline{\hspace{2cm}}$

6. (1 pt) The solution of the equation $\sqrt{2x+1} = \sqrt{2x-1} + 1$ is $x = \underline{\hspace{1cm}}$.

7. (1 pt) The solution of the equation

$$(2x-1)^{\frac{1}{3}} - 3 = 0$$

is $x = \underline{\hspace{1cm}}$.

Hint: You need to take something to the power 3.

8. (1 pt) Find all of the zeros of the function $f(x) = (x^2 + 2x - 9)(x^3 - 3x^2 - 40x)$. If there is more than one answer, enter your answers as a comma separated list. If there are no zeros, enter *NONE*. Enter exact answers, not decimal approximations.

$$x = \underline{\hspace{2cm}}$$

9. (1 pt) Find the zeros of the function $y = x^4 - 3x^2 - 10$. If there is more than one answer, enter your answers as a comma separated list. If there are no real zeros, enter *NONE*. Enter exact answers, not decimal approximations.

$$x = \underline{\hspace{2cm}}$$

10. (1 pt) Find a possible formula for a polynomial f that has degree 2 or less, $f(-2) = f(5) = 0$ and $f(2) = 24$.

$$f(x) = \underline{\hspace{2cm}}$$

11. (1 pt)

$$\log_2(16) = \underline{\hspace{2cm}}$$

$$\log_2\left(\frac{1}{32}\right) = \underline{\hspace{2cm}}$$

12. (1 pt)

$$\log_{10}(100) = \underline{\hspace{2cm}}$$

$$\log_{10}\left(\frac{1}{1000}\right) = \underline{\hspace{2cm}}$$

13. (1 pt)

$$\log_9(27) = \underline{\hspace{2cm}}$$

$$\log_9\left(\frac{1}{27}\right) = \underline{\hspace{2cm}}$$

14. (1 pt)

Solve the following equation for x .

$$\log_5(5x+1) = 3.$$

Answer: $x = \underline{\hspace{2cm}}$

15. (1 pt)

Use a calculator or computer to solve the following equation for x .

$$10^{4x} = 14.$$

Answer: $x = \underline{\hspace{2cm}}$