

WeBWork assignment number MPT_Practice_Exponents_2011 is due : 09/14/2012 at 11:00pm PDT.

The following link

<http://mathweb1.sandbox.csun.edu/mpt/>

contains other important information about this course.

The primary purpose of WeBWork is to let you know that you are getting the correct answer or to alert you if you are making some kind of mistake. Usually you can attempt a problem as many times as you want before the due date. However, if you are having trouble figuring out your error, you should consult the book, or ask a fellow student, one of the TA's or your professor for help. Don't spend a lot of time guessing – it's not very efficient or effective.

Give 4 or 5 significant digits for (floating point) numerical answers. For most problems when entering numerical answers, you can if you wish enter elementary expressions such as $2 \wedge 3$ instead of 8, $\sin(3 * \pi/2)$ instead of -1, $e \wedge (\ln(2))$ instead of 2, $(2 + \tan(3)) * (4 - \sin(5)) \wedge 6 - 7/8$ instead of 27620.3413, etc. Here's the **list of the functions** which WeBWork understands.

You can use the Feedback button on each problem page to send e-mail to the professors.

1. (1 pt) Evaluate the expression $(-2)^2$.

Your answer is ____

Answer(s) submitted:

•

(incorrect)

2. (1 pt) Evaluate the expression -2^4 .

Your answer is ____

Answer(s) submitted:

•

(incorrect)

3. (1 pt) Evaluate the expression $(-2)^0$.

Your answer is ____

Answer(s) submitted:

•

(incorrect)

4. (1 pt) Evaluate the expression

$$\frac{10^8}{10^6}$$

Your answer is ____

Answer(s) submitted:

•

(incorrect)

5. (1 pt) Evaluate the expression $\frac{1^3}{4^{-3}}$.

[NOTE: Your answer cannot be an algebraic expression.]

Answer(s) submitted:

•

(incorrect)

6. (1 pt) Evaluate the expression $125^{-4/3}$.

[NOTE: Your answer cannot be an algebraic expression.]

Answer(s) submitted:

•

(incorrect)

7. (1 pt) The expression

$$\left(-\frac{8}{343}\right)^{2/3}$$

equals ____ / ____.

Answer(s) submitted:

•

•

(incorrect)

8. (1 pt) The expression

$$\sqrt{180} - \sqrt{45}$$

equals ____ $\times \sqrt{5}$.

Answer(s) submitted:

•

(incorrect)

9. (1 pt) Evaluate the expression $\sqrt[3]{-1}$.

[NOTE: Your answer cannot be an algebraic expression.]

Answer(s) submitted:

•

(incorrect)

10. (1 pt) If you rationalize the denominator of

$$\frac{1}{11\sqrt{5} - 3\sqrt{3}}$$

then you will get

$$\frac{r\sqrt{5} + s\sqrt{3}}{n}$$

where r , s , and n are all positive integers (with no common factors).

$r =$ _____

$s =$ _____

$n =$ _____

[NOTE: Your answers cannot be algebraic expressions.]

Answer(s) submitted:

•
•
•

(incorrect)

11. (1 pt) The expression $\frac{2^5 2^2 2^{-5}}{\sqrt{4^2 2^4 2^{-5}}}$ equals 2^n where n is:

Answer(s) submitted:

•

(incorrect)

12. (1 pt) Evaluate the following without a calculator. Simplify your answers as much as possible.

(a) $(-5)5^2 =$ _____

(b) $(4^0)^4 =$ _____

(c) $2.1(10^4) =$ _____

(d) $81^{1/4} =$ _____

Answer(s) submitted:

•
•
•
•

(incorrect)

13. (1 pt) The expression

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

equals x^r/y^t where

r , the exponent of x , is: _____

t , the exponent of y , is: _____

Answer(s) submitted:

•
•
(incorrect)

14. (1 pt) The expression

$$(9b)^{1/2}(3b^{1/6})$$

equals nb^r where

n , the coefficient, is: _____

r , the exponent of b , is: _____

Answer(s) submitted:

•
•
(incorrect)

15. (1 pt) The expression

$$\left(\frac{4a^{-4}}{7b^{-1/6}}\right)^{-1}$$

equals na^r/b^t where

n , the coefficient, is: _____

r , the exponent of a , is: _____

t , the exponent of b , is: _____

Answer(s) submitted:

•
•
•
(incorrect)

16. (1 pt) The expression

$$\sqrt[2]{a^6 b^5}$$

equals $a^r b^s$ where

r , the exponent of a , is: _____

s , the exponent of b , is: _____

Answer(s) submitted:

•
•
(incorrect)

17. (1 pt) The expression $\sqrt[3]{64g^3y^2}\sqrt{64g^3y^2}$ equals $kx^r y^s$

where r , the exponent of g , is: _____

and s , the exponent of y , is: _____

and k , the leading coefficient is: _____

Answer(s) submitted:

•
•
•
(incorrect)

18. (1 pt) Simplify the expression as much as possible and leave it without radicals.

$$(9L^{5/6}P)^{6/5}(P)^{-6/5} = \underline{\hspace{2cm}}$$

Answer(s) submitted:

•

(incorrect)

19. (1 pt) Simplify the expression as much as possible and leave it without radicals.

$$7(5w^{1/3})(2w^{1/5}) = aw^b \text{ where}$$

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

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

Answer(s) submitted:

•

•

(incorrect)

20. (1 pt) Evaluate the following without a calculator. Simplify your answers as much as possible.

(a) $\sqrt{(-8)^2} = \underline{\hspace{2cm}}$

(b) $(-1)^9 \cdot \sqrt{16} = \underline{\hspace{2cm}}$

(c) $(0.09)^{1/2} = \underline{\hspace{2cm}}$

(d) $(-64)^{2/3} = \underline{\hspace{2cm}}$

Answer(s) submitted:

•

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•

•

(incorrect)

21. (1 pt) Evaluate the following without a calculator. Simplify your answers as much as possible.

(a) $\frac{13^3}{13^2} = \underline{\hspace{2cm}}$

(b) $\frac{8^3}{8} = \underline{\hspace{2cm}}$

(c) $\frac{10^7}{10^3} = \underline{\hspace{2cm}}$

(d) $\frac{4^7}{4^7} = \underline{\hspace{2cm}}$

Answer(s) submitted:

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•

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(incorrect)

22. (1 pt) Evaluate the following without a calculator. Simplify your answers as much as possible.

(a) $7^{-2} = \underline{\hspace{2cm}}$

(b) $16^{-3/2} = \underline{\hspace{2cm}}$

(c) $\left(\frac{1}{125}\right)^{-1/3} = \underline{\hspace{2cm}}$

(d) $\frac{1}{9^{-2}} = \underline{\hspace{2cm}}$

Answer(s) submitted:

•

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•

•

(incorrect)

23. (1 pt) **Rules of Exponents.** Understand how to combine powers.

$$(6y^2)^2(2y^3)^{-1} = ay^b$$

where

$$a = \underline{\hspace{2cm}} \text{ and}$$

$$b = \underline{\hspace{2cm}}.$$

Answer(s) submitted:

•

•

(incorrect)

24. (1 pt) If you write the following expression

$$\left(\frac{x^{-3}x^2}{x^3x^{-2}}\right)^2$$

as a single power of x then the exponent is _____

Answer(s) submitted:

•

(incorrect)

25. (1 pt) If you write the following expression

$$\left(\frac{x^{-1/3}x^{1/6}}{x^{1/4}x^{-1/2}}\right)^{-1/3}$$

as a single power of x then the exponent is _____

Answer(s) submitted:

•

(incorrect)

26. (1 pt) Find two **natural numbers** a and b such that $b > a$ and

$$a^b = b^a.$$

Then $a = \underline{\hspace{1cm}}$

and $b = \underline{\hspace{1cm}}$.

Hint: It is not usually true that $a^b = b^a$.

Answer(s) submitted:

•
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(incorrect)