THIS CLASS WILL NOT BE AVAILABLE UNTIL SPRING 2020!

TAFTCOLLEGE

Math 1510

Catalog Description:

College level course in algebra for majors in the Liberal Arts: polynomial, rational, radical, exponential, absolute value, and logarithmic functions; systems of equations; theory of polynomial equations; analytic geometry C-ID:MATH 150

SLO:

Course #1: Solve linear and nonlinear inequalities.
Course #2: Solve a system of two linear equations and interpret the solution graphically and algebraically.

Sample Problems:

Pre-Req for College Algebra (Math 1510)
List all the elements of set B that are of the indicated type.

1) $B = \left\{13, \sqrt{7}, -7, 0, \frac{0}{1}, \sqrt{9}, \frac{-8}{0}, 0.27\right\}$ 1) _____

Rational numbers

A) $\sqrt{7}, \sqrt{9}$ B) $13, 0, \sqrt{9}$

C) $13, -7, 0, \frac{0}{1}, \sqrt{9}, 0.27$ D) $\sqrt{7}, \frac{0}{1}, 0.27$

Evaluate the expression.

2) $(10 - 10^2)(-3 + \sqrt{64})$ 2) _____

A) -22 B) 0 C) -6030 D) -450

3) $\left[-\frac{5}{8} - \left(-\frac{1}{5}\right)\right] - \left(\frac{3}{2} - \frac{3}{10}\right)$ 3) _____

A) $\frac{31}{40}$ B) $-\frac{13}{8}$ C) $-\frac{81}{40}$ D) $\frac{3}{8}$

Evaluate the expression for $x = -2$, $y = 3$, and $a = -4$.

4) $\dfrac{\frac{15}{y} - \frac{a}{2}}{\frac{x}{2} + \frac{9}{y}}$ 4) _____

A) $\frac{3}{2}$ B) 4 C) $\frac{7}{2}$ D) $\frac{7}{3}$

Solve the problem.

5) The formula $C = \frac{5}{9}(F - 32)$ expresses the relationship between Fahrenheit temperature, F, and Celsius temperature, C. Use the formula to convert 113°F to its equivalent temperature on the Celsius scale. 5) _____

A) 9°C B) 146°C C) 45°C D) 81°C

Find the product.

6) $(-3x + 5y)(-2x + 10y + 1)$ 6) _____

A) $6x^2 - 10xy - 3x + 50y^2 + 5y$
B) $6x^2 - 40xy - 3x + 50y^2 + 5y$
C) $6x^2 - 40xy - 40y^2$
D) $6x^2 - 30xy - 3x + 50y^2$

Divide.

7) $\frac{2m^2 + 4m - 6}{m + 3}$ 7) _____

A) $m - 2$
B) $2m - 2 + \frac{5}{m - 2}$
C) $2m + 2$
D) $2m - 2$

Factor the polynomial.

8) $25z^4 + 10z^2 - 8$ 8) _____

A) $(5z^2 + 2)(5z^2 - 4)$
B) $(5z^4 + 2)(5z - 4)$
C) $(5z^2 + 4)(5z^2 - 2)$
D) $(5z^4 + 4)(5z - 2)$

Factor the polynomial completely.

9) $27a^3 - 125b^3$ 9) _____

A) $(3a - 5b)(9a^2 + 25b^2)$
B) $(3a - 5b)(9a^2 + 15ab + 25b^2)$
C) $(27a - 5b)(a^2 + 15ab + 25b^2)$
D) $(3a + 5b^2)(9a^2 - 15ab + 25b^2)$

Write in radical form. Assume all variables represent positive real numbers.

10) $(7x)^{1/5}$ 10) _____

A) $\frac{\sqrt{7x}}{5}$ B) $\sqrt[1/5]{7x}$ C) $\frac{1}{\sqrt[5]{7x}}$ D) $\sqrt[5]{7x}$

Write in exponential form. Assume all variables are positive real numbers.

11) $\sqrt[5]{x^3}$ 11) _____

A) $x^{3/5}$ B) $5x^3$ C) $x^{5/3}$ D) $3x^5$

Simplify the expression. Assume all variables represent positive real numbers.

12) $\sqrt{\frac{8x^2y}{49}}$ 12) _____

A) $\frac{2\sqrt{2x^2y}}{7}$ B) $x\sqrt{\frac{8y}{7}}$ C) $\frac{2x\sqrt{2y}}{7}$ D) $4x\sqrt{2y}$

Rationalize the denominator. Assume that all variables represent positive real numbers and that the denominator is not zero.

13) $\frac{5}{9-\sqrt{2}}$ 13) _____

A) $\frac{45+5\sqrt{2}}{7}$ B) $\frac{5}{9}-\frac{5}{\sqrt{2}}$ C) $\frac{45-5\sqrt{2}}{79}$ D) $\frac{45+5\sqrt{2}}{79}$

Simplify. Assume that all variables represent positive real numbers.

14) $\sqrt{9}-\sqrt{196}$ 14) _____

A) -5.5 B) $-\sqrt{187}$ C) -11 D) $-\sqrt{11}$

Answer Key
Testname: PRE-REQ MATH 1510

1) C
Points: 1
2) D
Points: 1
3) B
Points: 1
4) C
Points: 1
5) C
Points: 1
6) B
Points: 1
7) D
Points: 1
8) C
Points: 1
9) B
Points: 1
10) D
Points: 1
11) A
Points: 1
12) C
Points: 1
13) D
Points: 1
14) C
Points: 1