THIS CLASS WILL NOT BE AVAILABLE UNTIL SPRING 2020!

TAFTCOLLEGE

Math 1505 Mathematical Concepts for Elementary Teachers – Number Systems

Catalog Description:

This course focuses on the development of quantitative reasoning skills through in-depth, integrated explorations of topics in mathematics, including real number systems and subsystems. Emphasis is on comprehension and analysis of mathematical concepts and applications of logical reasoning. Not recommended for majors in Physical Science or Mathematics. Transfer Credit: CSU.

SLO:

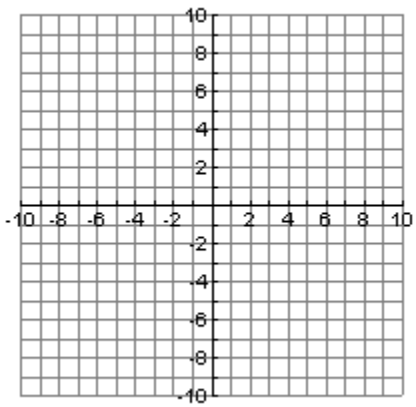
Course #1: Use divisibility rules to find greatest common divisors and least common multiples.
Course #2: Add, subtract, multiply, and divide fractions.

Sample Problems:

1. Find the slope and write the equation of the line in standard form through (6,2) and (-2,-5).

2. For the line $4x-3y=24$, find the x- and y- intercepts.

3. Graph $2x-y=3$.



4. Solve the system $\begin{cases} 3x-2y \\ 4x+5y \end{cases}$

5. If $f(x) = -2x^2 + 3x - 5$ and $g(x) = 5x - 1$, find $(f + g)(x)$.

6. *Perform the indicated operations* $\dfrac{8t^4 + 10t^3 - 13t^2 + 13t - 1}{2t - 1}$

Factor completely.

7. $12x^2 + 11x - 5$

Simplify each expression. Assume that all variables represent positive real numbers.

8. $\dfrac{x^2 - 6xy + 9y^2}{4x^2 - 36y^2} \div \dfrac{x - 3y}{15x^2 + 45xy}$

9. $\frac{3}{2z^2} - \frac{7}{8z}$

Solve.

10. $\sqrt{5x - 5} = x - 1$

11. $6x^2 - 5x - 6 = 0$

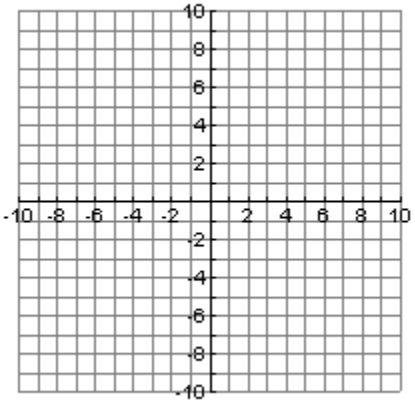
12. $\log_{64} 32 = x$

13. Write in logarithmic form: $4^{-3} = .015625$.

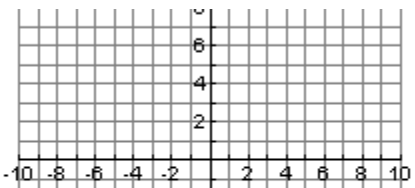
14. Write in exponential form: $\log_5 625 = 4$.

Graph each relation. (15&16)

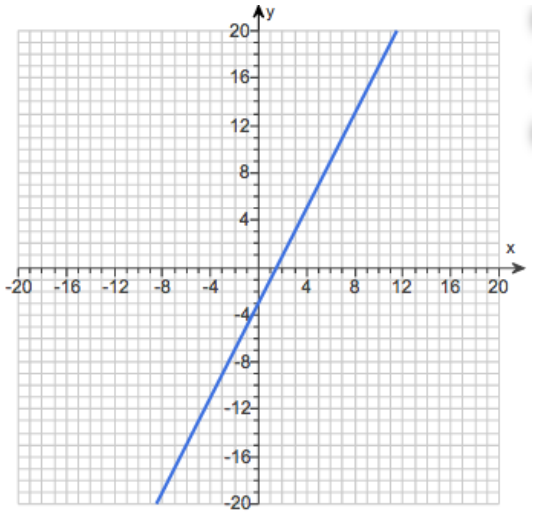
15. $f(x) = \dfrac{1}{4}(x + 3)^2 + 2$



16. $f(x) = \sqrt{x + 7}$

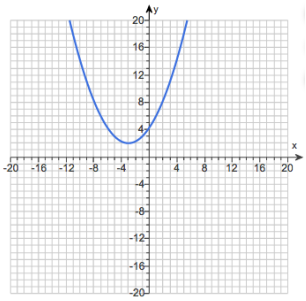


Answers:

1. Slope: 7/8 Equation of line: 7x-8y=26
2. x-int. (6,0) y-int. (0,-8)
3. 

4. {(-2,8)}
5. $(f+g)(x) = -2x^2 + 8x - 4$
6. $4t^3 + 7t^2 - 3t + 5 + \frac{4}{2t-1}$
7. $(3x-1)(4x+5)$
8. $\frac{15x}{4}$
9. $\frac{12-7z}{8z^2}$
10. $\{1,6\}$
11. $\left\{\frac{3}{2}, \frac{2}{3}\right\}$
12. $\left(\frac{5}{6}\right)$
13. $log_4.015625 = -3$
14. $5^4 = 625$

15.



16.