MATH 2: Final exam preparation

Pre-midterm 1 questions

1. When do you do the "find the common denominator?"?

2. Compute $\frac{5}{12} - \frac{2}{15} + \frac{7}{20}$?

3. Sarah earned $40,000$ dollars in 2015. In 2016, she earned 10% more. How much did she earned in 2016?

4. Sally earned $5,000$ more in 2016 than she did in 2015. If, in 2016, her income also went up by 10%, what was her income in 2015?

5. Sue earned $77,000$ in 2016. If, in 2016, her income also went up by 10%, what was her income in 2015?

6. If A, B are two numbers such that $A \cdot B = 0$, what can you conclude about A and B?

7. Solve for x: $(x^2 - 3x - 10)(yx - 12a) = 0$

Pre-midterm 2 questions

8. What is a graph of an equation? In particular, what does it mean for the point (x, y) to be on the graph of an equation?

9. Find t such that the point $(t, t+1)$ is on the graph of $xy = 20$.

10. Sketch the graph of $y = x^2$, $y = x^3$, and $y = \sqrt{x}$.

11. Sketch the graph of the following functions:

(1) $f(x) = x^3$
(2) $f(x) = (x+4)^3$
(3) $f(x) = (x+4)^3 + 2$

(Hint: each graph should be a simple transformation of the one before.)

12. Describe how to find sin and cos of any angles.

Post-midterm 2 questions

13. How to find sin and cos of big angles?

14. Find $\sin(\frac{79\pi}{6})$ and $\cos(\frac{79\pi}{6})$

15. What is the strategy to find $\tan, \sec, \csc$ and $\cot$?

16. What is the difference between the graph of sin and cos?

17. Sketch the graph of $3\sin(x - \frac{\pi}{4}) + 1$ and $3\cos(x - \frac{\pi}{4}) + 1$

18. Sketch the graph of $f(x) = 2^x$. Sketch the graph of $f(x) = (\frac{1}{2})^x$.

19. What is the definition of $\log_b(y)$? ($\log_b(y)$ = the nunber x such that ...)

20. What is the graph of $\log_2(x)$? What is the graph of $\log_{\frac{1}{2}}(x)$?

21. Compute $\log_9(3), \log_9(9), \log_9(27), \log_9(\frac{1}{81})$

22. What do you do when you see $\log + \log$?

23. What do you do when you see $\log - \log$?

24. What do you do when you see $\log(x^n)$?

25. Solve $\log_2(x + 1) - \log(3x - 7) = 1$