

MTH 130-002 Final Exam Information

The 100-point final exam will be posted Wednesday, December 16, by 1:00 pm. It will be due by email no later than **Thursday, December 17, at 11:59 pm.**

Your final exam will consist of twenty 5-point problems chosen from the topics listed below. For each problem, the answer itself will be worth **up to 2** points. The supporting work or explanation will be worth **up to 3** points. **You must supply supporting work for every problem** in order to receive full credit. The supporting work will be scored as follows:

- 0 points - No work or no correct work/explanation
- 1 point - Some correct ideas and work/explanation
- 2 points - The ideas and work/explanation are mostly correct
- 3 points - The ideas, notation, and work/explanation are complete and correct

Final exam skill list

1. Convert between degree and radian measure. (Section 7.1)
2. Use right triangles to define and evaluate the trig functions. (Section 7.2)
3. Use reference angles to evaluate the trigonometric functions. (Sections 7.3 & 7.4)
4. Recognize and use basic trig identities. (Section 7.2)
5. Define and evaluate the trigonometric functions on the unit circle. (Section 7.3)
6. Sketch the graphs of general sine and cosine functions. (Section 8.1)
7. Evaluate and use the inverse trigonometric functions. (Section 8.3)
8. Evaluate compositions of trig and inverse trig functions. (Section 8.3)
9. Verify (prove) basic trigonometric identities. (Section 9.1)
10. Use sum and difference formulas to evaluate trigonometric functions. (Section 9.2)
11. Use double-angle formulas to rewrite and evaluate trigonometric expressions. (Section 9.3)
12. Use power-reducing formulas to rewrite trigonometric expressions. (Section 9.3)
13. Use standard algebraic techniques to solve trigonometric equations. (Section 9.4)
14. Solve trig equations that are quadratic in form. (Section 9.4)
15. Use simple substitutions to solve trig equations involving a multiple angle. (Section 9.4)
16. Use the Law of Sines to solve triangles. (Section 10.1)
17. Use the Law of Cosines to solve triangles. (Section 10.2)
18. Write complex numbers in polar (trigonometric) form. (Section 10.5)
19. Compute whole number powers of complex numbers in polar form. (Section 10.5)
20. Convert between exponential equations and equivalent logarithmic equations. (Section 6.3)
21. Use the logarithm laws to expand or condense logarithmic expressions. (Section 6.5)
22. Solve exponential or logarithmic equations. (Section 6.6)