

Precalculus placement worksheet

This is an optional set of problems that will help you determine if Precalculus or another course is right for you. Its purpose is to help you succeed by guiding you to a course that is a good match for you. Before you start, here is some important information about choosing a math course:

- If you have already taken a **Calculus** course in high school, even if for only a semester and even if you didn't take an AP test, then the Math Department **highly recommends** that you take Calculus I instead of Precalculus.
- If you are majoring in a **non-STEM field**, the Math Department recommends you take Quantitative Reasoning (Math 1001) or Mathematical Modeling (Math 1101) to meet your Area A requirement instead of Precalculus. If you are unsure if Precalculus is recommended for your major, consult with your advisor or the department of your major.
- If you have **already taken College Algebra and earned a C or better**, then Precalculus is the next course in the sequence and you meet the prerequisite. While it is not necessary to do the problems that follow, it is recommended that you do them as a way to identify topics that you may want to review. The solution guide has links to review materials for most topics.
- The prerequisite for Precalculus is either a C or better in College Algebra or a B or better in Algebra II or Math 3 in high school. If you want to take Precalculus, but have not met that prerequisite, then sign up for College Algebra instead. After you earn a C or better in College Algebra, you can take Precalculus. If you are not sure if you meet the prerequisite because your high school courses had different names, consult with your advisor.
- If you have taken a course in high school called Precalculus, it most likely did not go as in depth into the subject as a college-level Precalculus course does. If you feel very comfortable with the material of Precalculus and want to take Calculus instead, you are welcome to do that. However, most people who have taken high school Precalculus and not Calculus will probably want to start in Precalculus. Be aware if you do take Precalculus that you may find it challenging even if you did not find high school Precalculus challenging. This worksheet can help you decide what to review before taking the course.
- This problems on this placement worksheet are primarily intended for people who want to take Precalculus and **have met the prerequisite** by earning a B or better in Algebra II or Math 3 in high school, which includes students who have taken Precalculus in high school. If this describes you, then it means you are eligible to enroll in Precalculus, but it is still possible that you would benefit from first taking College Algebra, as Precalculus relies heavily on the prerequisite material. This worksheet can help you decide which course you should take and can also help you to identify topics to review if you decide to enroll in Precalculus. The solution guide has links to review materials for most topics and the tutors at the Learning Center would also be happy to help you review.

If you have any questions about this worksheet, please email Dr. Rachel Epstein: rachel.epstein@gcsu.edu.

See the next page for the problems

Precalculus placement problems

For the following problems, keep track of your answers on your own paper. You may take as much time as you'd like. Do not use a calculator or other technology to help you and do not guess at answers you don't know, as the purpose of these problems is to help you determine your preparedness for Precalculus. There is no need to send your answers to anyone. When you are finished, you will check your own answers and see the recommended actions in the solution guide.

1. Simplify: $\frac{3}{4} \times \frac{2}{3}$

2. Compute: $\frac{\left(\frac{2}{3}\right)}{\left(\frac{3}{4}\right)}$

3. Simplify: $2 \div \frac{1}{3}$

4. Solve for x : $-2x + 4 = 6$

5. Solve for x : $3x + 5 = 6x - 4$

6. Expand $(x + 3)^2$

7. True or false: $\sqrt{x + 2} = \sqrt{x} + \sqrt{2}$.

8. Compute 2^3 .

9. Compute $\sqrt[3]{8}$

10. Compute $4^{\frac{1}{2}}$. (That's an exponent, not multiplication)

11. Solve for x : $2x^2 - 4 = 0$

12. Solve for x : $\sqrt{x + 1} - 1 = 2$

13. Add the fractions to get a single fraction:

$$3 + \frac{4}{3}$$

14. Add the fractions to get a single fraction:

$$\frac{1}{x} + \frac{2}{y}$$

15. Solve for x : $x^2 + x - 6 = 0$.

16. Solve for x : $x^2 - 2x = -3x + 6$.

17. Solve for x : $\frac{3}{x} = 2$.

18. True or false:

$$\frac{1+y}{1+x} = \frac{y}{x} \quad \text{because we can cancel out the 1s}$$

19. True or false:

$$\frac{1+y}{x} = \frac{1}{x} + \frac{y}{x}$$

20. Simplify the following, if possible:

$$\frac{2x^2 + x^3}{2x}$$

21. Simplify the following, if possible:

$$\frac{1+x}{x}$$

22. True or false: $(x^3)^2 = x^6$

23. Which is equal to x^2x^4 ? x^8 or x^6 ?

24. Sketch a graph of the function $y = x^2$.

25. Plot four points on the graph of the function $y = (x - 1)^3$

26. Suppose $f(x) = 3x - 1$. Find $f(2)$.

To see the solutions and guidance on what to do next, go to the [Precalculus Placement Solution Guide](#)