# TabletClass Math Homeschool
# Pre-Calculus Placement Guide/Test

The purpose of this guide and test is to help you determine if Pre-Calculus is the right level and course for your child at this time in their education.

**Placement Considerations:**

1. **Previous course finished**: completion of Algebra 2 at a minimum is required
2. **Previous course grade**: grade C or better
3. **Age**: flexible, but 17–18 is the age group of most students that take the course
   **Motivation/goals**: This is important to consider for students that may or may not be ready for Pre-Calculus —a student will need to work hard to pass this course. Also, motivation and desire to learn math is a critical factor to assess, especially for younger students.
4. **Placement Test Results**: **Over 75%** on the placement test **is desirable**. However, if a student scores **between 65% and 75%,** the course **may still be a good choice for them**. But, if your child scores **below 50%** on the placement test, they **may not be ready for the course, or** they will **need to review previous math skills before starting the course**.

**FINAL FACTOR**: Ultimately, you the parent should use your best judgement to determine if Pre-Calculus is the right course for your child. Don't be afraid to make a decision; if your child starts the course, you will likely know in the first month if your placement was a good choice or you need to change course level. If you decide that your child is not ready for Pre-Calculus at this time, you may want to consider our **Algebra 2 Course** as a review.

**Directions for Placement Test:**

1. Give your child a day or two to review previous math concepts—this review is optional and should be informal without the parent's assistance.
2. Calculator is allowed.
3. No math notes or other reference materials.
4. No smart phones or access to the internet.
5. Time limit 30 min.
6. Encourage your child to finish all questions to the best of their ability.
7. Once the test is complete- compute the raw score and percentage.

**Placement Test Starts Next Page** – Answer Key & Score Sheet Is on the Last Page
— *Make Sure Not To Give Your Child The Key Accidentally*

## TabletClass Math Pre-Calculus Placement Test
## 20 Questions | 30 minutes

1. Write as a power $(y+1)^2(y+1)^{-5}(y+1)^0$
2. Evaluate $-14-3(16\div 2\ x\ 2)-2\ x\ 5^2=$
3. Evaluate $-3w^2+2g-w\ if\ w=-2\ and\ g=3$
4. What is the slope of the line 2x + 3y = 12
5. Solve the equation $\frac{1}{4}(y-8)+y=\frac{1}{2}(y+3)$
6. Factor the GCF (Greatest Common Factor) $6y^3+10y^2+4y$
7. Multiply the binomials (2x + 3)(4x + 5)
8. Factor the trinomial $2x^2+9x-5$
9. Simplify the expression $(2a^2b^3)^2(8a^{-5}b^{10})=$
10. Write as an exponential equation $log100=2$
11. Simplify $x^2[(x^2-9)\div(x+3)^2]=$
12. Add the rational expressions $\frac{3}{(x+2)^2}+\frac{7}{x}=$
13. Solve for x $\frac{x+1}{20}=\frac{7}{14}$
14. Find the slope between the points (4, 8) and (2, 10)
15. Solve for x: $4\sqrt{2x+1}=20$
16. Solve for x: $4x^2-8x=0$
17. Solve the system below (if possible):

$$y=2x-6$$
$$-4x+2y=-14$$

18. Simplify the radical $2\sqrt{80}*\sqrt{5}$
19. Find f(g(x)) $f(x)=2x+1 \quad g(x)=3x-2$
20. What is the Domain of this function over the Real Numbers?
$f(x)=\sqrt{x+5}$

## TabletClass Math Pre-Calculus Placement Test
## Answer Key | Raw Score

1. $(y+1)^{-3}$ *or* $1/(y+1)^3$
2. - 112
3. 0
4. Slope = -2/3
5. Solution y = 14/3
6. $2y(3y^2+5y+2)$
7. $8x^2+22x+15$
8. $(2x-1)(x+5)$
9. $32a^{-1}b^{16}$ *or* $32b^{16}/a$
10. $10^2 = 100$
11. $\frac{x^3-3x}{x+3}$
12. $\frac{7x^2+31x+28}{x(x+2)^2}$ *or* $\frac{7x^2+31x+28}{x^3+4x^2+4x}$
13. $x = 9$
14. Slope = -1
15. $x = 12$
16. $x = 0,\ x = 2$
17. *no solution*
18. 40
19. $f(g(x)) = 6x-3$
20. $Domain: x \geq -5,$ *x is a Real Number or* $x: [-5, +\infty)$

Raw Score % = [ (number of correct answers) / 20 ] x 100

Raw Score % = _____