

Physics 105
Math Pretest Answers

1. 12.4 m

2. $A = 31^\circ, B = 41^\circ$

3. 16.6 m

4. 102 m^2

5. $x = 2$

6. $x = -1$, or $x = \frac{4}{3} = 1.33$

7. $x = -\frac{5}{7} = -0.714$, or $x = 1$

8. $x = 0.973$

9. $x = 1.95$

10. $v = \sqrt{\frac{(4b^2 - 3)t}{a}}$

11. $t = \frac{av^2}{4b^2 - 3}$

12. $y = x - 1$

If you correctly solved fewer than 10 of these problems, or if you took noticeably longer than one hour to complete these problems, you should consider that your math background needs to be strengthened before enrolling in Physics 105. (It has been our observation that students who struggle with the math presented here typically average a C or lower in the class.)

If you have already completed a class in trigonometry but have not used those skills in some time, an intensive review *before* the semester begins may suffice. Please note that trying to re-learn the math as we go is usually not a good idea, and leads to quite a bit of struggling with the course material.

If you have not completed a class in trigonometry (Math 109 or Math 111, or their equivalent), you will struggle with a great deal of the mathematical language used throughout Physics 105 (13 of the 15 chapters we usually cover make use of trigonometry). Please note that, in this regard, Math 108 is not sufficient preparation.