

Physics 341
Physics of Music
Math Status Test

Name:

The following questions are to give me an idea of what the mathematical and musical sophistication is of the people in this class. The level of mathematics tested here is very roughly the level expected of you during this course. This test is primarily so that I will know the level to use in teaching the class. I neither want to bore you with elaborate explanations of concepts which are well known to you, nor snow you with math that you have long forgotten. This test does not count for anything and is for my information only. Please answer as many questions as you can (guess if you have some feeling that you know what the question means).

1. 8^2

2. $\sqrt{49}$

3. $(25)^{1/2}$

4. Write out in full decimal notation

(a) 3.1×10^2

(b) 5.7×10^{-3}

5. Solve for x in each of the following equations:

a)

$$5x - 8 = 7$$

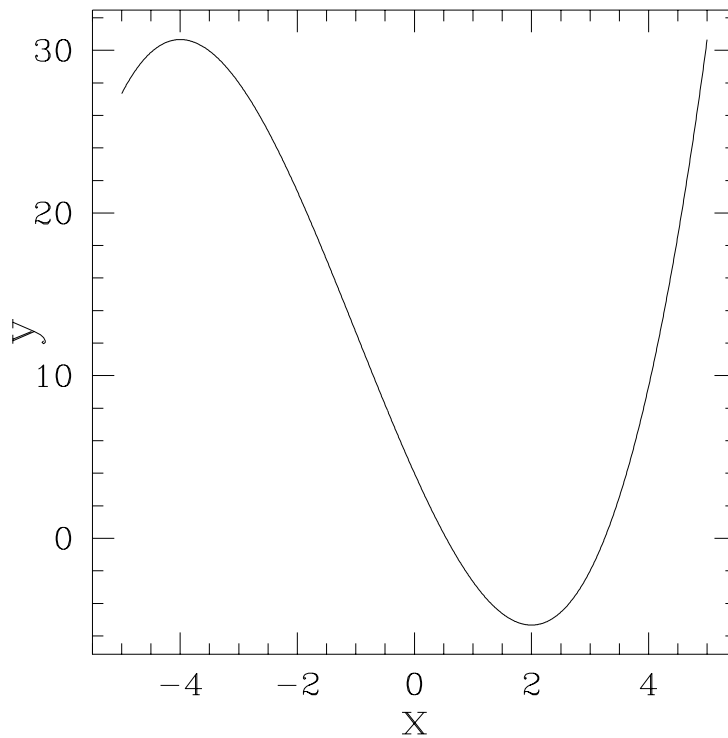
b)

$$ax + b = c$$

6. $\sqrt{\frac{a^2}{b^4}}$

7. What is the meaning of π ? What is the approximate value of π .

8. In the following graph, a function $y(x)$ is plotted against x . Answer the following questions about this graph.



(a) If x has value 2 what are the possible values of y ?

(b) If y has the value 5, what are the possible values of x ?

9. Sketch the graph for the function $y = x^2$.

10. Sketch the graph for the function $y = \sin(x)$.

11. What is the name of the note an octave above middle C?

12. What is the name of the note a perfect fifth above A? A perfect fifth below A?

13. What is the name of the note a major sixth above G? A minor sixth below G?

14. Do/did you play a musical instrument? If so which and how long have you played?

15. Why did you decide to take this course? What do you hope to get out of this course?