

## Homework #1 – Mathematical Boot Camp

(due: Monday 1/11/10)

*Show all of your work, when possible.*

### Scientific notation

1. Express the number 27000.0 in scientific notation (with only two significant figures)
2. Express the number 7346592457.34 in scientific notation (with only two sig. figures)
3. Express the number 0.00923 in scientific notation (with only two sig. figs)
4. Express the number  $1.458 \times 10^5$  in decimal notation

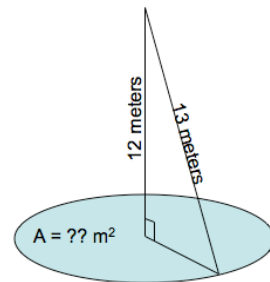
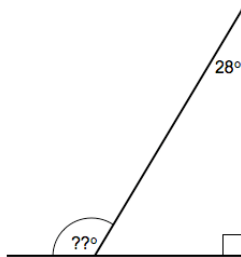
### Algebra

Solve for x in each of the following equations:

5.  $2x + 3 = 17$
6.  $5(x + 7) = 60$
7.  $(x - B)^2 = C$
8.  $2(x - 4)^3 = 1024$

### Geometry

9. What is the unknown angle in the figure below/left? (in degrees)
10. What is the surface area of the circle below/right? (in square-meters)



### Unit Conversion

11. Convert the driving distance from Santa Cruz to San Diego from miles into:
  - a. Inches
  - b. Meters
12. Convert the driving distance from Santa Cruz to San Diego from miles into gas-tanks (assuming one gas-tank is equivalent to 400 miles).
13. Convert the driving distance from Santa Cruz to San Diego from miles to dollars (assuming you get 30mpg and gas is \$3per gallon).