STAT 113 Readiness Self-Diagnostic Test

To be ready for STAT 113, you are not expected to know any statistics, but you should be proficient in some basic high-school level quantitative and algebraic skills. You should be able to answer the following questions without the use of a calculator.

1. 300 is what percent of 2,000?

15%

2. A town has 100,000 families; 0.1 of 1% of these families have incomes over $300,000 a year. The number of such families is __100___.

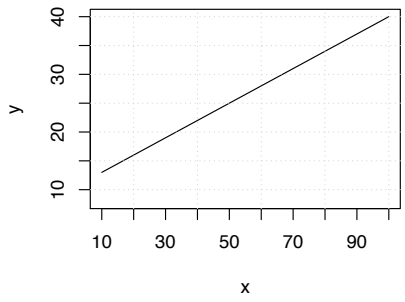
3. There are 100 million eligible voters in the US. The Gallup poll interviews 4,000 of them. That amounts to 1 eligible voter out of every __25,000___.

4. Here is a quadratic equation: $2x^2$ s 7x + 6 = 0. One of the following is a solution. Which one?

(a) 1 (b) 2 (c) 3 (d) 4

5. The graph of the equation $y = \frac{1}{3}x + 2$ is a straight line. Does the point (5.1, 3.5) lie on the line? No: 1/3 * 5.1 + 2 = 1.7 + 2 = 3.7, not 3.5

6. Estimate the slope of the line drawn below.



The slope is about (34s 16)/(80s 20) = 18/60 = 0.3. (Individual answers may be slightly different)

7. You throw a pair of dice. What is the chance that both dice come up 1?

There are 6x6 = 36 combinations, all equally likely, so the chance of double 1s is 1/36.

8. What is $\sum_{i=1}^{5}(i^2 - 1)$?

The notation means
$(1^2 - 1) + (2^2 - 1) + (3^2 - 1) + (4^2 - 1) + (5^2 - 1) = 0 + 3 + 8 + 15 + 24 = 50$

9. Solve the following for x: $\frac{a}{x} = \frac{b}{c}$.

$x = ac / b$

10. 33.85% of 572.397 is *approximately*

(a) 100 (b) 200 (c) 300 (d) 400 (e) 500

11. The square root of 1500 is *approximately*

(a) 10 (b) 20 (c) 30 (d) 40 (e) 50