

How to Study for a Math Test

Teachers in college will give you a study guide that doesn't necessarily have practice problems but will have topics.

- 1) Look through your notes and identify where each topic from the study guide is.
- 2) Identify those topics in your textbook.
- 3) Pick problems from those topics to practice. Pick odd problems so you can check your answers.
- 4) For the topics you're having real problems with, write down specific questions and go to teacher's office hours.
- 5) If a note card is allowed, be sure to fill it. Write a positive message to yourself.
- 6) Do not pull an all-nighter the night before. Wrap up your studying early and do something relaxing.
- 7) Warm up an hour before the test by practicing some of the tough topics.
- 8) Unleash your awesomeness!

11p347

Carbon dating

half-life is 5600 yrs

$$k = \frac{\ln 0.5}{5600} = -0.000124$$

$$A = A_0 e^{-0.000124t}$$

30% of A_0 remained

$$0.3A_0 = A_0 e^{-.000124t}$$

$$\ln 0.3 = -.000124t$$

$$t = 9709 \text{ years}$$

$$y = 5 - \frac{4}{7}x$$

$$7\left(x = 5 - \frac{4}{7}y\right)$$

$$7x = 35 - 4y$$

$$\frac{7x-35}{-4} = \frac{-4y}{-4}$$

$$f^{-1}(x) = \frac{7x-35}{-4}$$

$$g(f(x)) = \frac{7\left(5 - \frac{4}{7}x\right) - 35}{-4}$$
$$= \frac{35 - 4x - 35}{-4}$$

$$= \frac{-4x}{-4} = x$$

$$f(x) = 5 - \frac{4}{7}x$$

$$g(x) = \frac{7x-35}{-4}$$

$$f(g(x)) = 5 + \frac{4}{7}\left(\frac{7x-35}{+4}\right)$$

$$= 5 + \frac{7x}{7} - \frac{35}{7}$$

$$= 5 + x - 5$$

$$= x$$

For the 3rd one on number 9, use $t=10$ yrs

$$5^{1+3x} = 6^{2x}$$

$$\ln 5^{1+3x} = \ln 6^{2x}$$

$$(1+3x)\ln 5 = 2x \ln 6$$

$$(1+3x)1.61 = 2x 1.79$$

$$1.61 + 4.83x = 3.58x$$

$$1.61 = -1.25x$$

$$x = -1.29$$

$$6) \log_4 \frac{1}{64} = x$$

$$4^x = \frac{1}{64} = \frac{1}{4^3} = 4^{-3}$$

$$4^x = 4^{-3}$$

$$x = -3$$