GEOLOGY 12	
CHAPTER 8 WORKSHEET #2	
RELATIVE TIME AND ABSOLUTE TI	ME

Name	_

Match the descriptions on the right to the persons on the left. Place the letter of the corresponding description in the blank by each name. You may use some descriptions more than once.

D C G B

- 1. Henri Becquerel
- 2. Lord Kelvin (reworked Button's)
- 3. Nicholas Steno
- 4. Georges Buffon
- 5. John Joly
- 6. William Smith
- 7. Archbishop Ussher
- 8. C.D. Walcott

- A. calculated age of earth from number of generations in the Bible Ussher
- B. proposed the Law of Faunal Succession Smth
- C. calculated age of earth based on cooling rate Button of the earth from an initially molten state
- proposed the principles of Superposition and Original Horizontality
- E. discovered radioactivity of uranium Bequerel
- F. calculated age of earth based on rates of sedimentation Walcott
- G. calculated age of earth based on amount of salt in the oceans
- H. calculated age of earth based on rate of "burning" of the sun Kant
- 9. After two half-lives, how much radioactive parent isotope will be left in a given mineral?
 - A. 133%
- B. 50%
- (C.) 25%
- D. 33%
- 100 -> 50 -> 25
- 10. If the ratio of daughter isotope to parent isotope is 7, how many half-lives have passed?
 - A. can't tell from information given
- C. one

B. seven

- D three
- 8747677
- 11. As each half-life passes, the amount of daughter product will
 - A. decrease by half each time
 - B. increase by doubling each time
 - C. never exceed the amount of parent isotope remaining
 - D. increase by the amount of parent isotope which has decayed
- 12. A mineral being used for radiometric dating contains 600 units of the daughter isotope and 200 units of radioactive parent isotope. How many half-lives have passed?
 - A) two

C. three

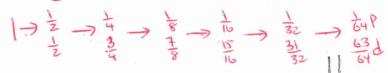
B. none

- D. can't tell from the information given
- 13. A mineral contains an amount of daughter isotope equal to the amount of radioactive isotope remaining in it. The half-life for the radioactive isotope is 250 million years. How old is the mineral?
 - A. 250 million years

C. 500 million years

B. 125 million years

- D. just formed; no decay has occurred
- 14. Rubidium-87 has a half-life of 48.8 billion years. Let's assume that radioactive rubidium would be safe to be around if there was less than 1/64 the original number of radioactive atoms left. How many years would that take?
 - A. about 800,000 years
- C. about 3200 million years
- B. a little over 290 billion years
- D. cannot be calculated from the information given



6h.l.x48.8 = 222.8by.

15.	Placing rocks or geological events in their proper time order is known as relative dotto		
16.	In a sequence of sedimentary rock layers, the rock is always on the bottom.		
17.	Sedimentary rocks, which are now folded or otherwise deformed, initially were deposited as		
	horizon tal layers of sediments.		
18.	A is a type of unconformity in which sedimentary rock layers are parallel above and below it.		
19.	An igneous dike or pluton is in age than the rocks which it cuts across.		
20.	The Law of Faunal Succession is useful because it allows geologists to correlate rock layers		
	based on thethey contain.		
21.	In the nineteenth century, the age of the earth was thought to be considerably than it is today.		
22.	Radioactive decay affects the numbers of protons and neutrons in the <u>nucleus</u> of an atom.		
23.	Each particle consists of two protons and two neutrons.		
24.	particles may be electrons or positrons.		
25.	Gamma rays are a form of <u>electromagnetic</u> radiation, similar to X-rays.		
26.	A is used to measure the tiny amounts of parent and daughter isotopes in radiometric age dating.		
27.	Radioactive decay is a <u>statistical</u> phenomenon, "obeying" the laws of probability.		
28.	Potassium-40 will decay to the daughter isotope Agon -40 (a gas) (1,25 by)		
29.	Uranium-235 will decay to the daughter isotope		
30.	Of the radioactive isotopes used for age dating rocks, Rubidium-87 has the longest half-life.		
31.	marily for age dating archeological artifacts. (5730 ym)		
32.	If some of the daughter product has escaped from a mineral since the time that radioactive decay		
	started, the derived age of the mineral (or rock) will appear to be too		
33.	The era of the geologic time scale that represents "middle life" is the		
34.	The shortest and most recent era of the time scale is the		
35.	Arrange the terms in order by age from oldest to youngest, as they are arranged in the geologic time scale : Paleozoic, Proterozoic, Cenozoic, Mesozoic, Archean		
	_ Cenozoic		
	Mesozoic		
	Paleozoic		
	Proterozoic ? Precambrian		
	Archaen		

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