

Organic Compound Worksheet

KEY

1. What are the characteristics of life?

OMIT

2. What are the four basic compounds of life?

A. CARBOHYDRATESC. PROTEINSB. LIPIDSD. NUCLEIC ACIDS3. What element does all living organisms possess? C + H

4. What is the difference between saturated and unsaturated fats?

ALL SINGLE BONDS = SATURATEDONE OR MORE DOUBLE BONDS = UNSATURATED

5. Please fill in the blanks for the following.

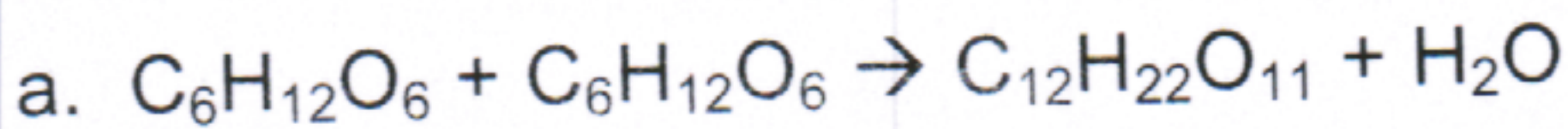
a. Amino Acid + A.A. + A.A. → POLYPEPTIDEb. Glucose + Fructose → SUCROSEc. Glucose + GALACTOSE → Lactosed. Glucose + Glucose → Maltosee. Glycerol + F.A. + F.A. + F.A. → Lipid (Fat)f. Monomer + DIMER → POLYMERg. Glycerol + PHOSPHATE + 2 Fatty Acids → PHOSPHOLIPIDh. MONO + Monosaccharide + MONO → POLYSACCHARIDEi. Nucleotide + NUCLEOTIDE + NUCLEOTIDE → TRIPLETj. ADP + P → ATPk. PHOSPHATE + BASE + Pentose Sugar → Nucleotide6. What are the four bases of DNA? A, T, G, C7. What is the name of the energy molecule used in animal cells? ATP

8. When energy is released during a reaction, it is considered what type of reaction?

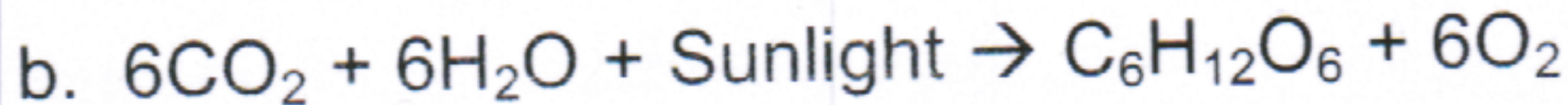
EXERGONIC9. How many different types of bases are there in DNA? 4

DS H

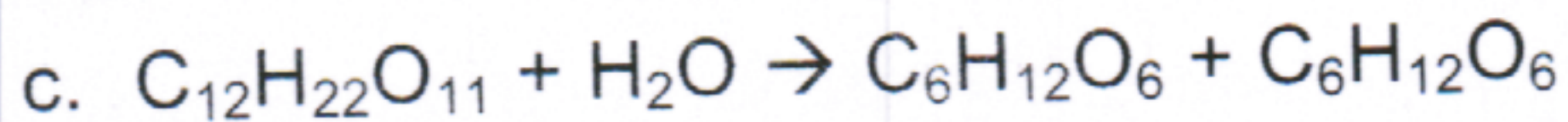
10. Please indicate if the following reactions are dehydration synthesis or hydrolysis.



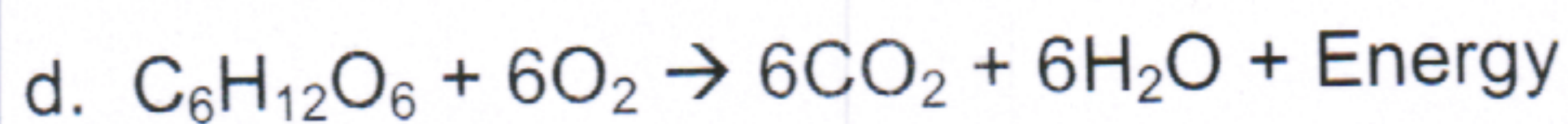
DS



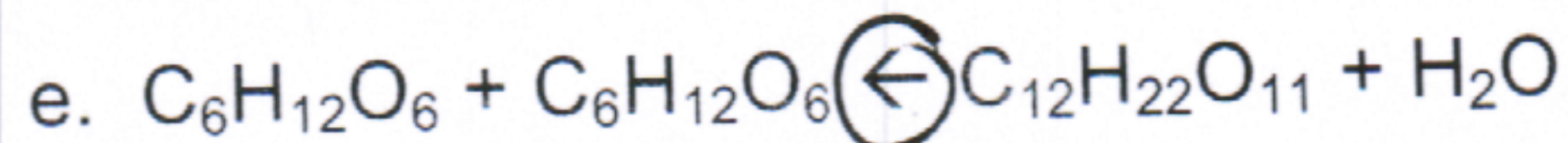
DS (PHOTOSYNTHESIS)



Hydrolysis



Hydrolysis (CELL Resp)



H



D.S.

11. Please give an example of an isomer. GLUCOSE + FRUCTOSE

12. Name a compound that you would find phosphates in. DNA, RNA, ATP

13. Why and what do animals use wax for? PROTECTION + STRUCTURE

14. Give an example of a starch. PASTA, BREAD

15. Give an example of a place where you would find glycogen. LIVER

16. Where do you find phospholipids? CELL MEMBRANE

17. Where is cellulose found? CELL WALLS - PLANTS

18. What is the problem with cellulose for animals? CAN'T DIGEST IT

19. What biological compound are enzymes considered? PROTEIN

20. Where is chitin found? EXO SKELETON + FUNGUS

21. What causes amino acids to be different? SIDE CHAINS

22. What biological compound are hormones considered? PROTEINS + FAT

23. In what compound would you find peptide bonds? PROTEINS

24. How many amino acids are there? 20

25. Name two things that will destroy a protein. TEMP + PH

26. How can scientists account for the millions of proteins there are?

20 A.A. placed in different orders

27. Many scientists say that DNA is the universal code of life. Explain what this statement means. GENETIC CODE of life