STUDENT WORKSHEET | Functional Groups and IUPAC Naming

Name _____ Date _____ Class _____

Instructions: Answer 1-6. Show clear structures and calculations for 7-8. Consult the worked key after completing the worksheet.

PART A: Multiple choice and application

1. What group appears in CH3COOCH3?

(A) Ether only
(B) Ester
(C) Amine

2. CH3CH(OH)CH2CH3 is named

(A) Butan-2-ol
(B) Butan-3-one
(C) 2-methylpropanol

3. What functional group is R-C=N?

(A) Nitrile
(B) Alkyne
(C) Amide

4. The carbonyl in a ketone is bonded directly to

(A) Two carbon groups
(B) A hydrogen and an oxygen only
(C) Two halogens

5. What is CH3CH(CH3)CH2CH2CH3?

(A) 2-methylpentane
(B) Hexane
(C) 4-methylpentane

6. The correct suffix for CH3COCH2CH3 is

(A) -ol
(B) -one
(C) -amine

PART B: Drawing and reasoning

7. Draw 3-methylpentan-2-one and label the carbonyl and substituent.

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8. Name $CH_3CH_2CH(OH)CH_3$ and CH_3COOCH_3 and identify the functional groups.

Check chemical formulas, atom counts, charges, units, and naming before reviewing the key.