

Name: _____

Physiology: Neurotransmitters and the Brain Worksheet

Directions: Write in and circle best answer on this sheet.

1. ACh has **2** types of receptors. They are: _____ and _____.
2. Where is ACh released, tick all that apply: Central NS ☐ Peripheral NS ☐ At Skeletal Muscle ☐
3. List Amino Acids that are neurotransmitters (NT's). Also, list NT's that are *derived* from Amino Acids.
4. What are the '**analgesic**' neurotransmitters, and in general, how do they work in the CNS?
5. List the activities or conditions that could induce the release of **beta endorphins** in the body?
6. List **3** neurotransmitters discussed in class that are **catecholamines**.
1) _____ 2) _____ 3) _____
7. What is **catechol-O-methyltransferase**, and what does it do in the body?
8. What is **monoamine oxidase (MAO)** and what does it do in the body?
9. List the major divisions of the brain from the "lowest" to the "highest" in terms of info processing:
1) _____ 4) _____
2) _____ 5) _____
3) _____ 6) _____
10. The formation of memories, the ability to make predictions, the mechanics of language, complex thought and analysis, all are primarily due to this specific region (lobe) of brain _____.
11. What is the name of the most superficial part of the **telencephalon's** surface? It is the structure that processes information for each of the lobes. (*Hint: Look up a term or word if you do not recognize it*)
Answer: _____.
12. In which two specific areas (include the lobes) does the perception of **gustation** occur?
1) _____, of the _____ lobe.
2) _____, of the _____ lobe.

13. The **amygdala** is part of the _____ system. An important role of the amygdala is recognition of facial expressions that elicit _____, but also more pleasant emotions. Stimulation of the body by the amygdala results in the release of at least 4 NT's (see **OER Text**, Ch 9, page 188), including:

14. Cranial nerves (like the trochlear, or trigeminal nerves) belong to what aspect of the nervous system?

- a) Spinal nervous system
- b) Peripheral nervous system
- c) Central nervous system

15. If the _____ of the brain were damaged, a person could have problems maintaining proper blood pressure levels, may have trouble swallowing and sneezing.

16. List the 3 **vital centers** in the brain. What are their specific functions, and where they are in the brain?

- 1)
- 2)
- 3)

17. The **midbrain** includes a structure that has "4 bodies", called the _____.

18. The upper two bodies in Q 17 are the _____ & are for _____.

19. The bottom two bodies in Q 17 are the _____ & are for _____.

20. Using the **OER Text** (**Ch 9**, from p200-203), briefly describe the functions of the following **nuclei** that are located in the Hypothalamus.

Specific details of nuclei are not asked on exams, this is just to illustrate the functions of these areas.

1) Mammillary body:

2) Suprachiasmatic nucleus:

3) Arcuate nucleus:

4) Ventromedial nucleus:

5) Lateral nucleus: