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. In general, how do the '**analgesic**' neurotransmitters work in the CNS?

5. List the activities or conditions that could induce the release of **beta endorphins** in the body?

6. List three (3) NT'S 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 <u>most superficial part</u> of the **telencephalon's** surface? It is the structure that processes information for each of the lobes. *(Hint: Look it up if you do not recognize a term or word)*
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 page 180 of OER text), 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 Q17 are the _____ & are for _____.

20. Using OER text (from p190), briefly describe the functions of the following **nuclei** in the Hypothalamus.
Such specific details of nuclei are not asked on exams, this just illustrates the functions of these areas.

1) Mammillary body:

2) Suprachiasmatic nucleus:

3) Arcuate nucleus:

4) Ventromedial nucleus:

5) Lateral nucleus: