

9
EXERCISEREVIEW SHEET
The Axial Skeleton

Instructors may assign a portion
of the Review Sheet questions
using Mastering A&P™

Name Shanice Hendricks

Lab Time/Date _____

The Skull

1. First, match the bone names in column B with the descriptions in column A (the items in column B may be used more than once). Then, circle the bones in column B that are cranial bones.

Column A

B

1. forms the anterior cranium

D

2. cheekbone

H

3. bridge of nose

J

4. posterior bones of the hard palate

K

5. much of the lateral and superior cranium

L

6. single, irregular, bat-shaped bone forming part of the cranial base

E

7. tiny bones bearing tear ducts

G

8. anterior part of hard palate

A

9. superior and middle nasal conchae form from its projections

H

10. site of mastoid process

I

11. has condyles that articulate with the atlas

C

12. small U-shaped bone in neck, where many tongue muscles attach

M

13. organ of hearing found here

N

14. two bones that form the nasal septum

D

15. forms the most inferior turbinate

Column B

a. ethmoid

b. frontal

c. hyoid

d. inferior nasal concha

e. lacrimal

f. mandible

g. maxilla

h. nasal

i. occipital

j. palatine

k. parietal

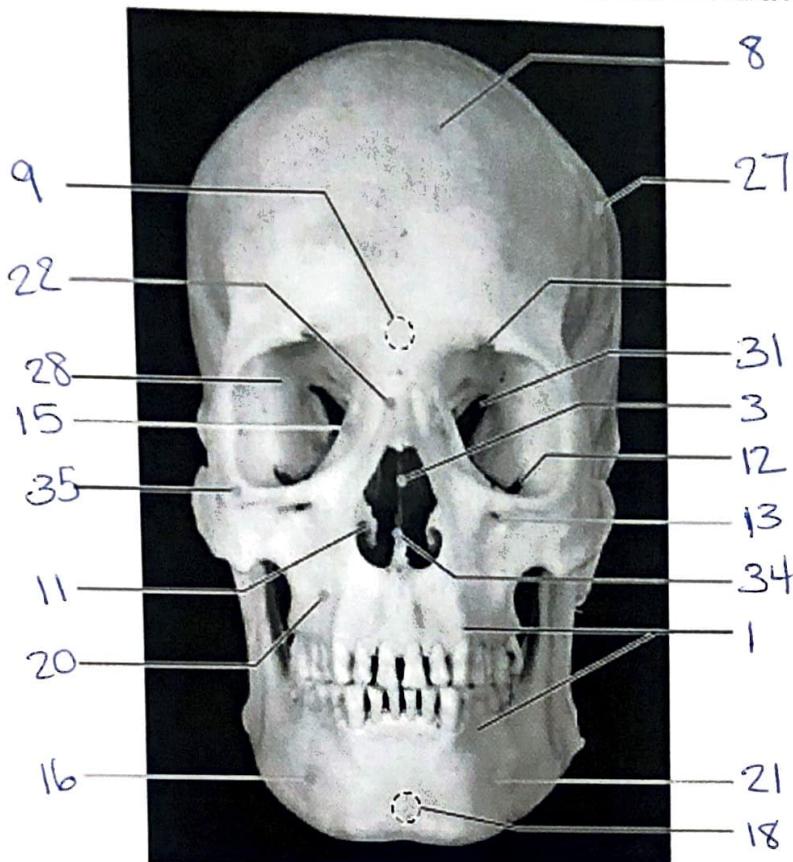
l. sphenoid

m. temporal

n. vomer

o. zygomatic

2. Using choices from the numbered key to the right, identify all bones and bone markings provided with various leader lines in the two following photographs. A colored dot at the end of a leader line indicates a bone. Leader lines without a colored dot indicate bone markings. Note that vomer, sphenoid bone, and zygomatic bone will each be labeled twice.



Key: 1. alveolar processes

2. carotid canal

3. ethmoid bone (perpendicular plate)

4. external occipital protuberance

5. foramen lacerum

6. foramen magnum

7. foramen ovale

8. frontal bone

9. glabella

10. incisive fossa

11. inferior nasal concha

12. inferior orbital fissure

13. infraorbital foramen

14. jugular foramen

15. lacrimal bone

16. mandible

17. mandibular fossa

18. mandibular symphysis

19. mastoid process

20. maxilla

21. mental foramen

22. nasal bone

23. occipital bone

24. occipital condyle

25. palatine bone

26. palatine process of maxilla

27. parietal bone

28. sphenoid bone

29. styloid process

30. stylomastoid foramen

31. superior orbital fissure

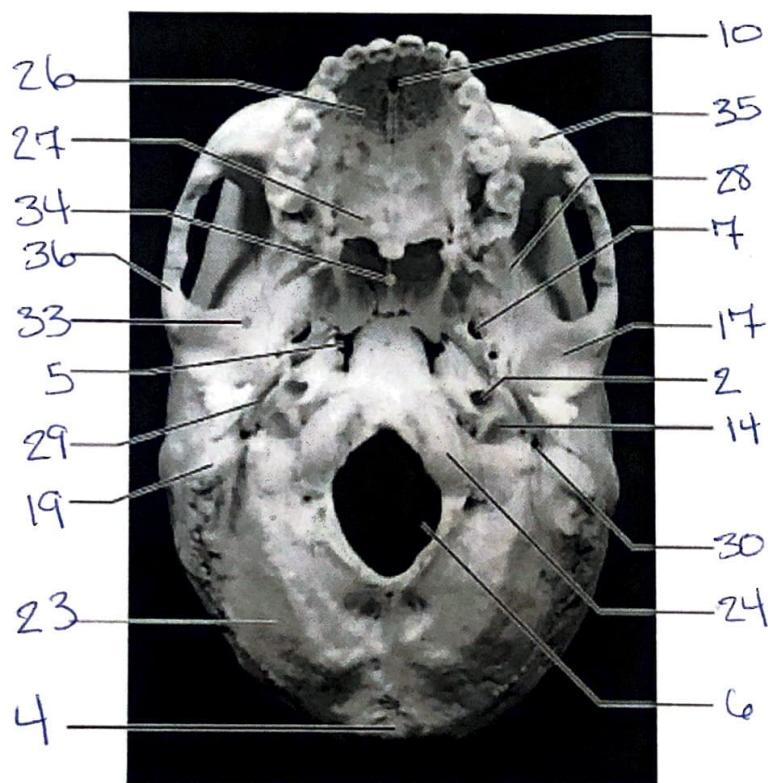
32. supraorbital foramen

33. temporal bone

34. vomer

35. zygomatic bone

36. zygomatic process



3. Define suture. Fibrous joint between skull bones
4. With one exception, the skull bones are joined by sutures. Name the exception.
Joints between the mandible & temporal bones
5. What bones are connected by the lambdoid suture?
Occipital and parietal

What bones are connected by the squamous suture?

6. Name the eight bones of the cranium. (Remember to include left and right.)

<u>Frontal</u>	<u>Occipital</u>	<u>Right Parietal</u>	<u>Right Temporal</u>
<u>Sphenoid</u>	<u>Ethmoid</u>	<u>Left Parietal</u>	<u>Left Temporal</u>

7. List the bones that have sinuses, and give two possible functions of the sinuses.

* Frontal, Maxilla, Ethmoid, Sphenoid

Function 1) Lighten the skull

Function 2) Resonance chambers for speech

8. What is the bony orbit? Boney socket for the eye

What bones contribute to the formation of the orbit? Ethmoid, Lacrimal, Frontal,

Sphenoid, Zygomatic, Maxillary, Palatine

9. Why can the sphenoid bone be called the keystone bone of the cranium?

It articulates with all of the other cranial bones.

The Vertebral Column

10. The distinguishing characteristics of the vertebrae composing the vertebral column are noted below. Correctly identify each described structure by choosing a response from the key.

Key:	a. atlas	d. coccyx	f. sacrum
	b. axis	e. lumbar vertebra	g. thoracic vertebra
	c. cervical vertebra—typical		

Cervical - Vertebrae: vertebra type containing foramina in the transverse processes, through which the vertebral arteries ascend to reach the brain (C)

Axis

2. dens here provides a pivot for rotation of the first cervical vertebra (C.)

Thoracic Vertebra

3. transverse processes faceted for articulation with ribs; spinous process pointing sharply downward

Sacrum

4. composite bone; articulates with the hip bone laterally

Lumbar Vertebra

5. massive vertebra; weight-sustaining

Coccyx

6. "tail bone" fused vertebrae

Atlas

7. supports the head; allows a rocking motion in conjunction with the occipital condyles

11. Using the key, correctly identify the vertebral parts/areas described below. (More than one choice may apply in some cases.) Also use the key letters to correctly identify the vertebral areas in the diagram.

Key:	a. body	d. pedicle	g. transverse process
	b. intervertebral foramina	e. spinous process	h. vertebral arch
	c. lamina	f. superior articular facet	i. vertebral foramen

Vertebral Foramen

1. cavity enclosing the spinal cord

Body

2. weight-bearing portion of the vertebra

Spinous Process

3. provide levers against which muscles pull

Transverse Process

4. provide an articulation point for the ribs

Intervertebral Foramina

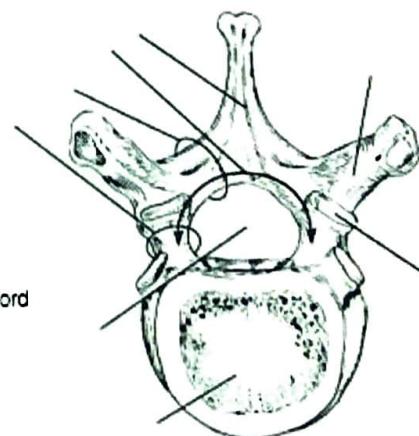
5. openings providing for exit of spinal nerves

Vertebral Arch

6. structures that form an enclosure for the spinal cord

Pedicle Lamina

7. structures that form the vertebral arch



12. Describe how a spinal nerve exits from the vertebral column. Spinal Nerves exits through

the ventral root then the ventral horn.

13. Name two factors/structures that permit flexibility of the vertebral column.

Discs

and S-Shaped

14. What kind of tissue makes up the intervertebral discs? Fibrocartilage

15. What is a herniated disc? Nucleus Pulposus compresses on spinal cord

What problems might it cause?

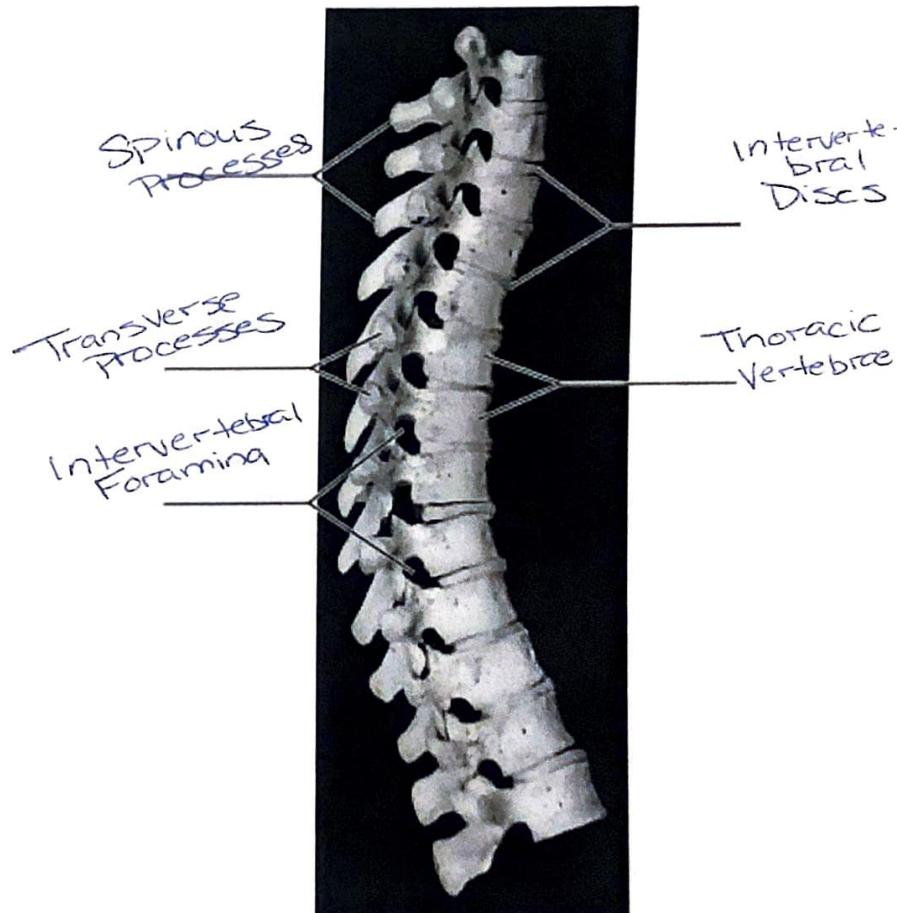
Paralysis

16. Which two spinal curvatures are obvious at birth? Thoracic and Sacral

Under what conditions do the secondary curvatures develop? They develop or occur with normal development.

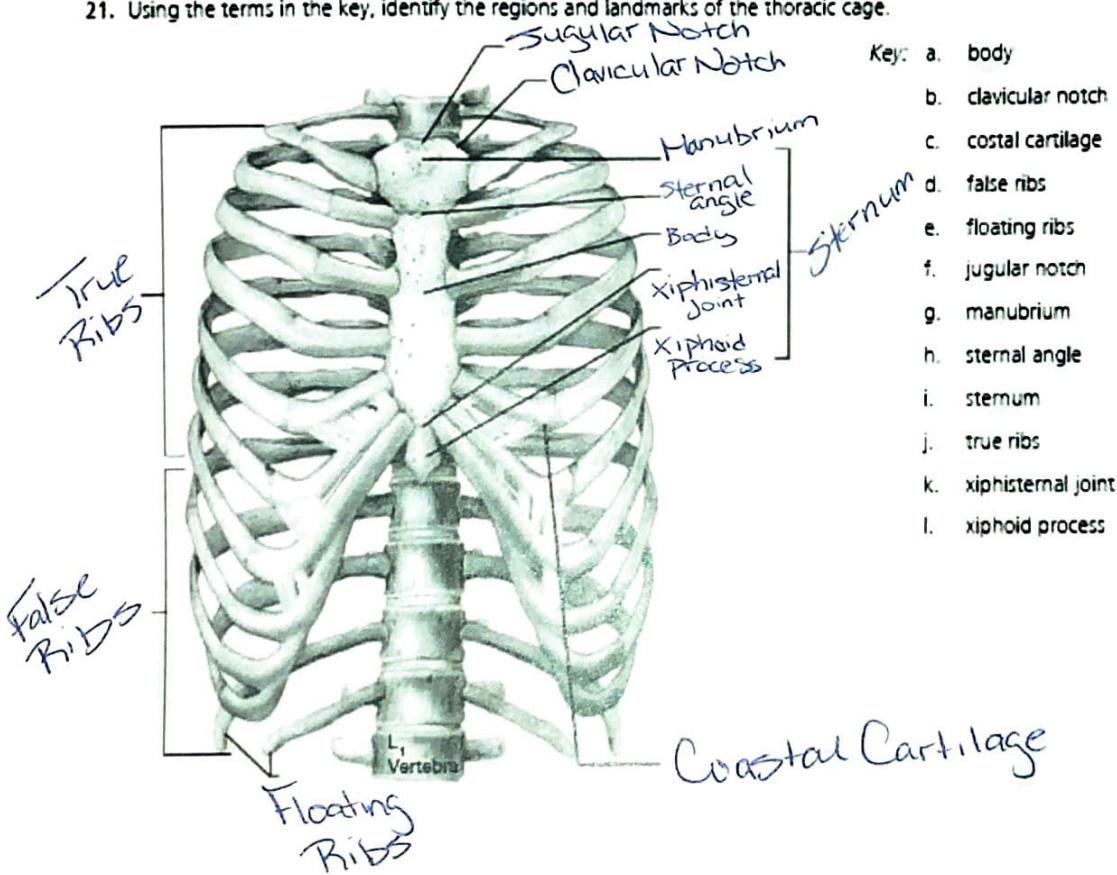
17. Use the key to label the structures on the thoracic region of the vertebral column.

- Key:
- intervertebral discs
 - intervertebral foramina
 - spinous processes
 - thoracic vertebrae
 - transverse processes



The Thoracic Cage

18. The major bony components of the thorax (excluding the vertebral column) are the Sternum
and the Ribs
19. Differentiate between a true rib and a false rib. True Ribs attach to the sternum via their own individual cartilage; False Ribs coastal cartilage attaches to other ribs coastal cartilages before attaching to sternum.
Is a floating rib a true or a false rib? Neither, No attachment to sternum or coastal cartilages.
20. What is the general shape of the thoracic cage? Cone - Shaped Barrel - like
21. Using the terms in the key, identify the regions and landmarks of the thoracic cage.



The Fetal Skull

22. Are the same skull bones seen in the adult also found in the fetal skull? Yes
23. How does the size of the fetal face compare to its cranium? Face is foreshortened, overshadowed by the large cranium
 How does this compare to the adult skull? Adult Cranium is smaller and the facial bones are proportionately larger and more prominent.
24. What are the outward conical projections on some of the fetal cranial bones? Ossification Centers
25. What is a fontanelle? Fibrous membrane connecting fetal skull bones
 What is its fate? Progressively ossified.
 What is the function of the fontanelles in the fetal skull? Allow fetal skull to be compressed slightly during birth passage; Allows for fetal and infant brain growth.
26. **+** Craniosynostosis is a condition in which one or more of the fontanelles is replaced by bone prematurely. Discuss the ramifications of this early closure.
It happens because fused suture leads to restricted growth in some areas & compensatory bossing in other areas
27. **+** As we age, we often become shorter. Explain why this might occur. Disc between vertebrae lose fluid, arches in our feet flatten, we loose muscle mass leading to poor posture.
28. **+** The xiphoid process is often missing from the sternum in bone collections. Hypothesize why it might be missing. Slowly ossifies into bone and fuses with body of sternum as we grow older.