



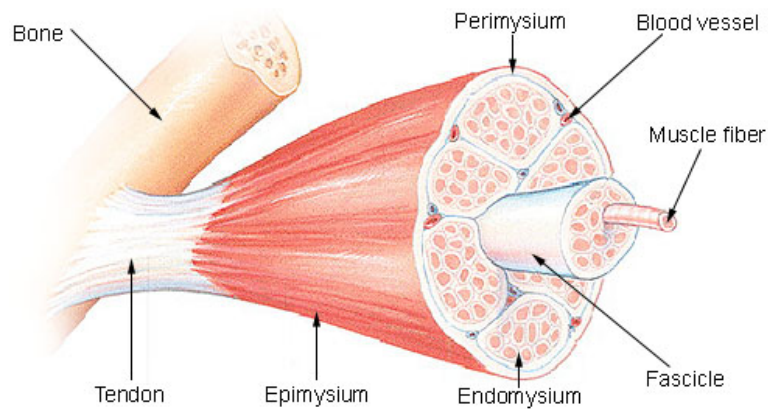
NATIONAL
HOLISTIC
INSTITUTE

A College of Massage Therapy

"Helping People Have Work They Love"

Bones and Muscles

Structure of a Skeletal Muscle



Student Packet

Name _____ Group # _____

Learning Objectives

In the Bones class you will learn the basics of anatomy as it pertains to the skeletal structure of the body, bony landmarks, and anatomical directions and terms.

In the Muscles class you will begin your journey into the details of muscles, the primary focus of massage work.

This deeper understanding of the human body will enhance your skills as a massage therapist, support you in providing a superior massage based upon knowledge of the human anatomy, and enable you to communicate in anatomical language with others in the healthcare field.

This class will also share with you “super learning” techniques to support you through the program.

Bones and Muscles Test – FAQ’s

Q: Does spelling count?

A: Yes. Use the list of Bones and Muscles that comes with the test to verify that your spelling is correct. Print clearly. If we cannot decipher what you have written, points may be deducted.

Q: Do we have to write “anterior view” or “posterior view” on the test for those muscles that are visible from front and back?

A: No, just the names of the muscles.

Q: Can I use the abbreviation for ASIS?

A: No. You must spell out the name as written on the Bones list. You may include the abbreviation ASIS, but it is not required.

Q: Can I use the abbreviation for SCM?

A: No. You must spell out the name as written on the Muscles list. You may include the abbreviation SCM, but it is not required.

Q: Do I need to include the number of vertebrae?

A: Yes. Include the numbers as written on the Bones list. Example: 2-4 Coccygeal vertebrae.

Study Guide for Bones and Muscles Test

Test Date: _____

Bones

12 Thoracic vertebrae
2 - 4 Coccygeal vertebrae (coccyx)
5 Lumbar vertebrae
5 Sacral vertebrae (fused), sacrum
7 Cervical vertebrae

Ischial tuberosity
Ischium
Lateral border
Manubrium
Medial border
Metacarpals
Metatarsals

Anterior superior iliac spine (ASIS)
Body of sternum
Calcaneus
Carpals
Clavicle
Femur
Fibula

Occipital ridge
Patella
Phalanges
Phalanges
Pubis
Radius

Greater trochanter
Humerus
Iliac crest
Ilium
Inferior angle
Intervertebral discs

Scapula
Superior angle
Tarsals
Tibia
Ulna
Xiphoid process

Muscles

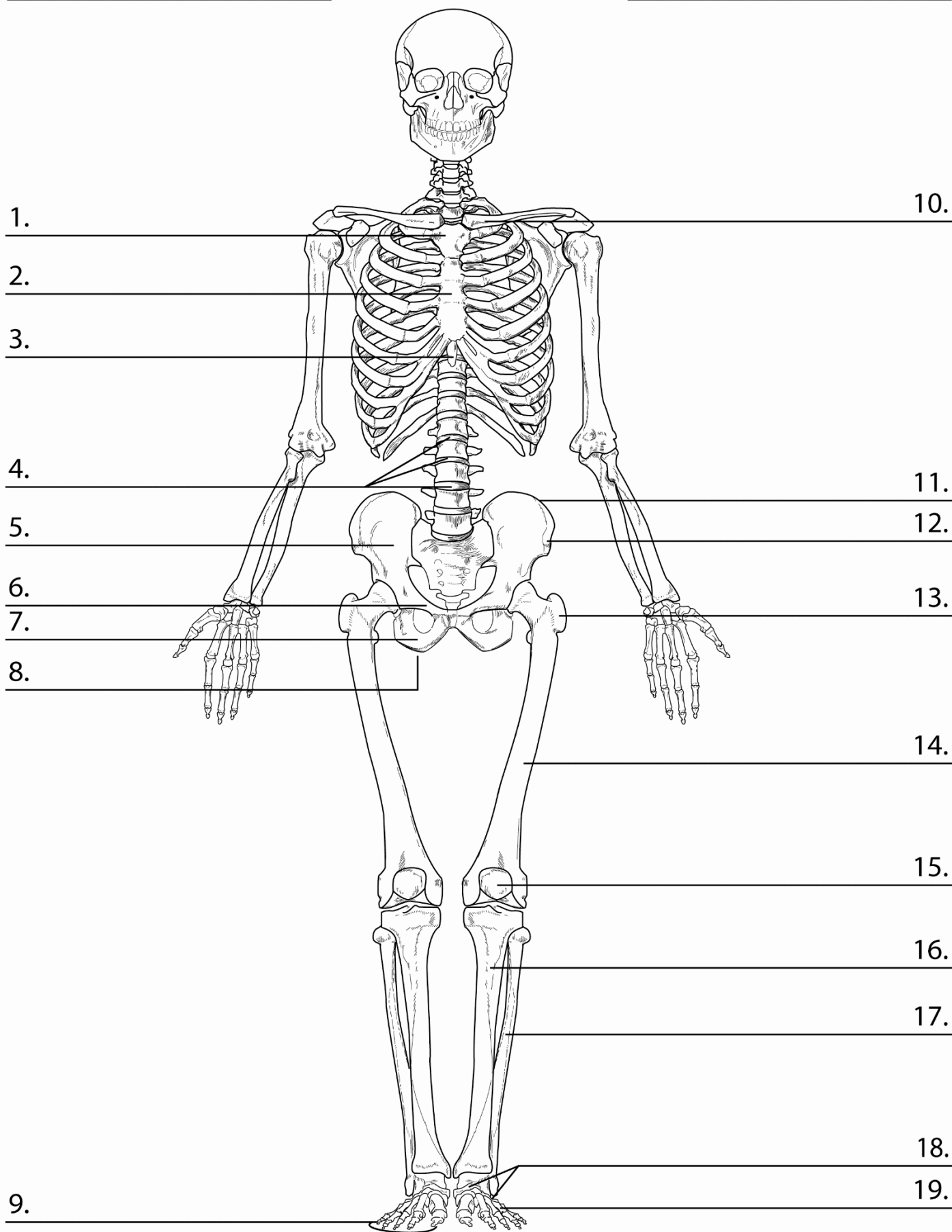
Biceps brachii
Brachioradialis
Deltoid - (anterior and posterior views)
Frontalis

Gastrocnemius - (anterior and posterior views)
Gluteus maximus
Gluteus medius
Hamstrings (3)
Iliotibial tract
Latissimus dorsi
Pectoralis major

Quadriceps femoris
Rectus abdominis
Soleus - (anterior view, and posterior/lateral views)
Sternocleidomastoid - (also called the **SCM**)
(anterior and posterior views)
Tibialis anterior
Trapezius - (anterior and posterior views)
Triceps brachii

Name _____

Group Number _____



Name _____

Group Number _____

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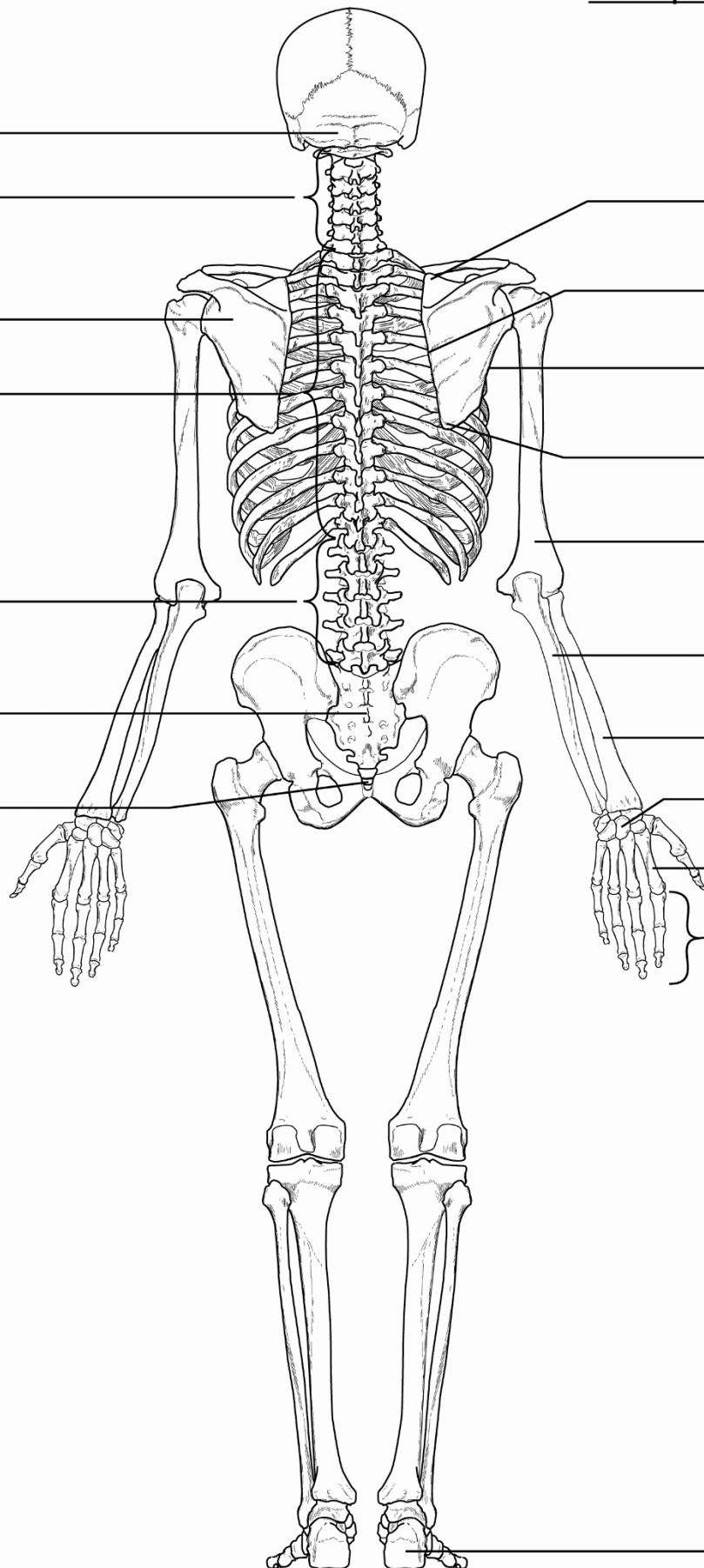
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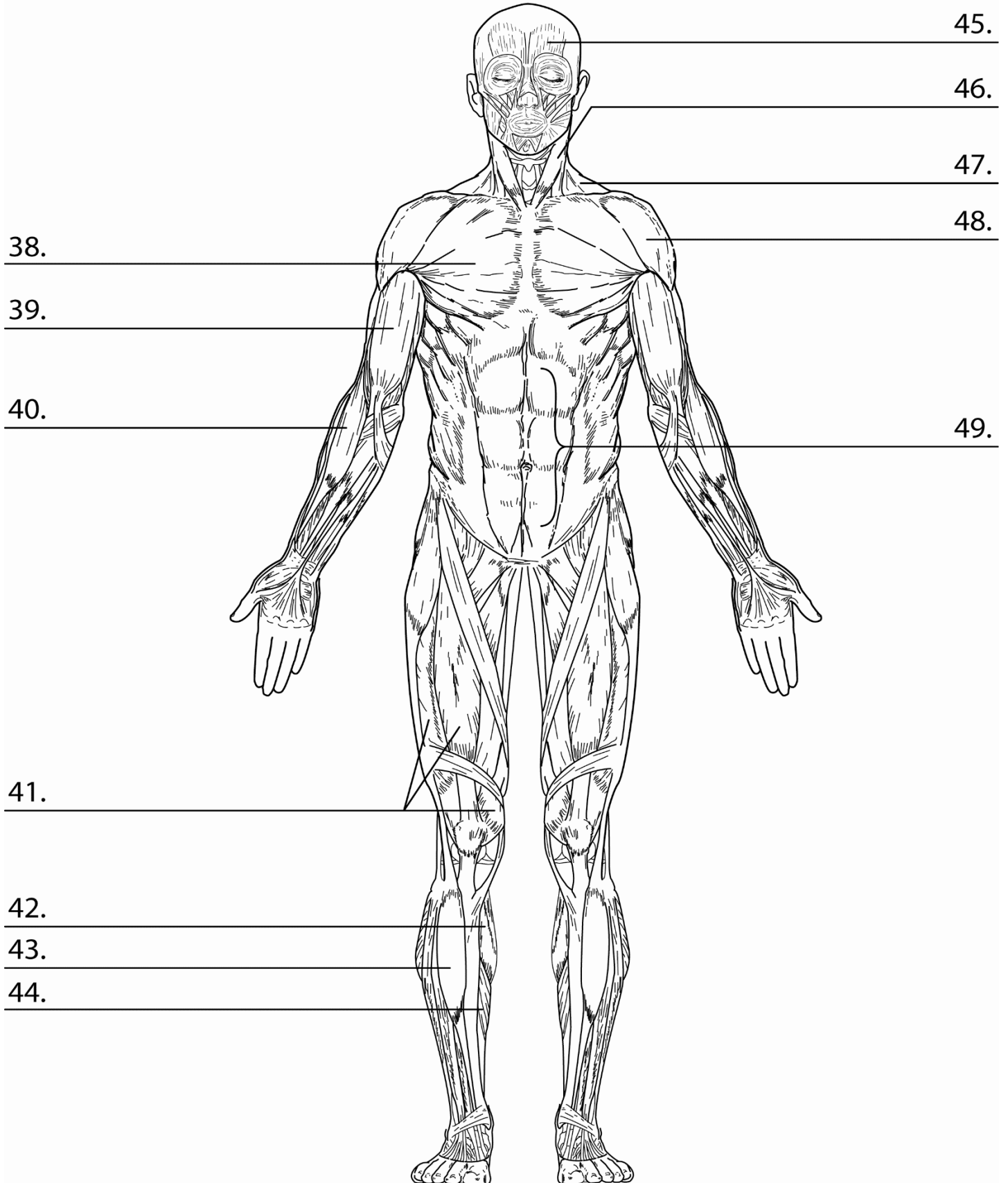
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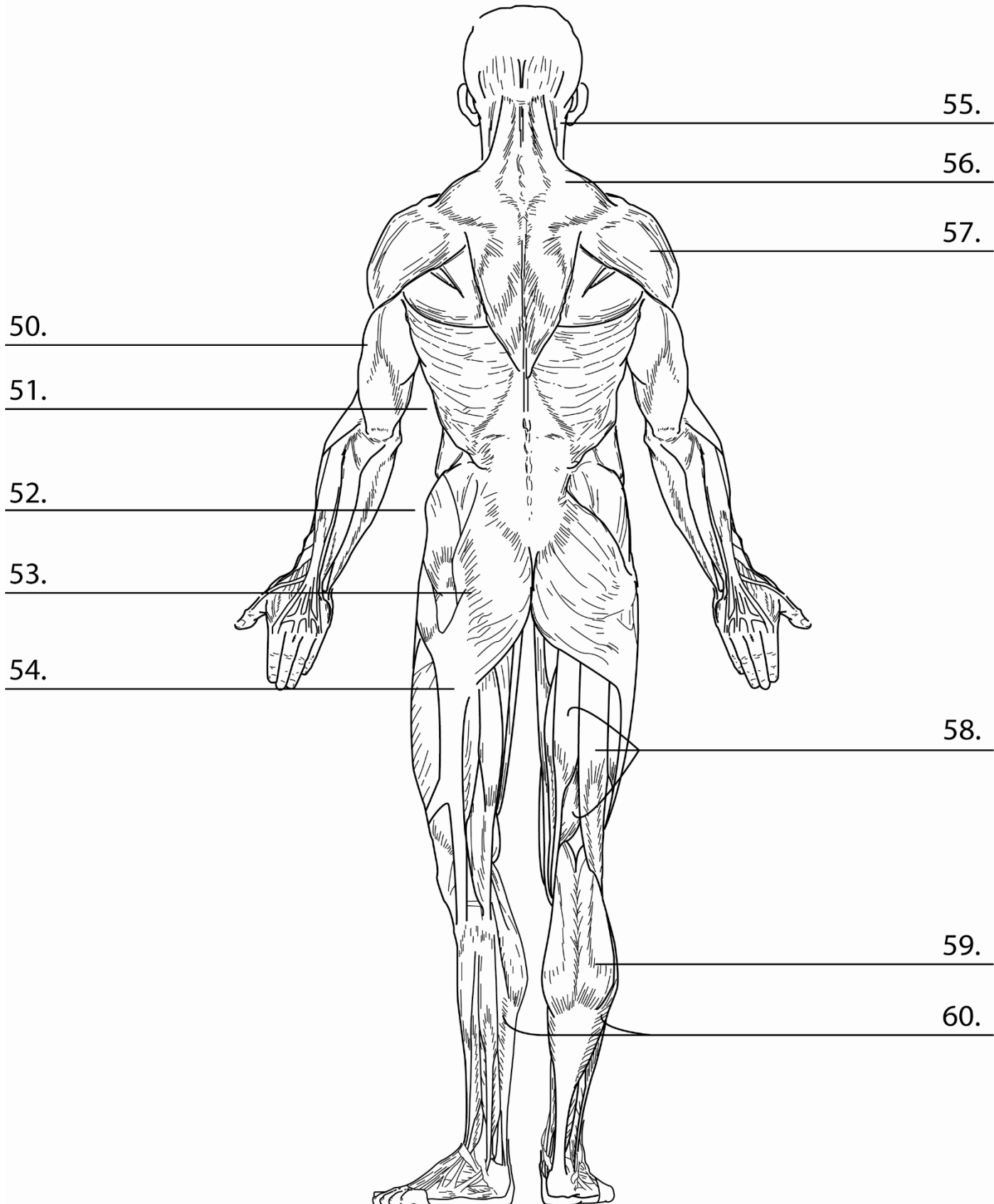
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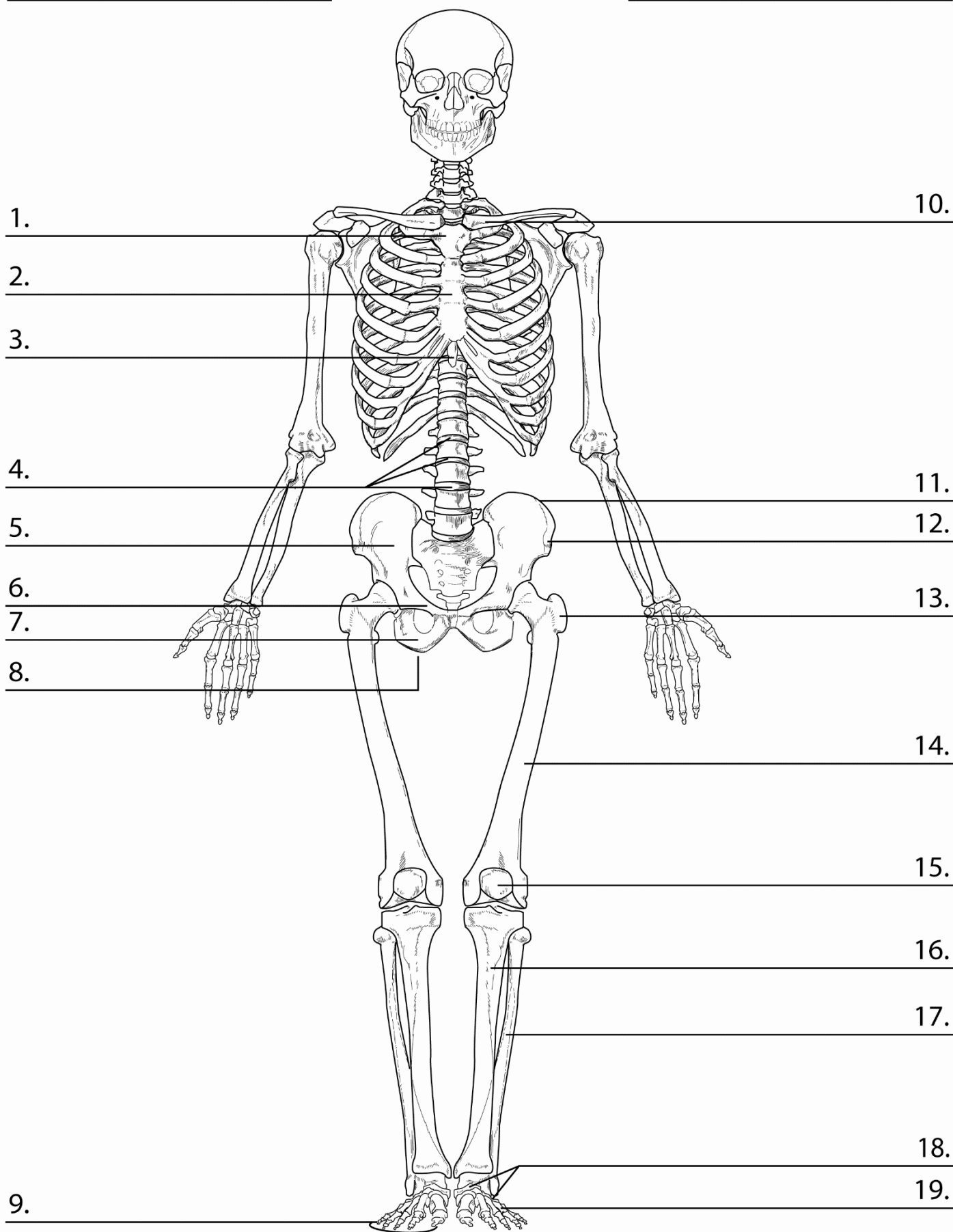
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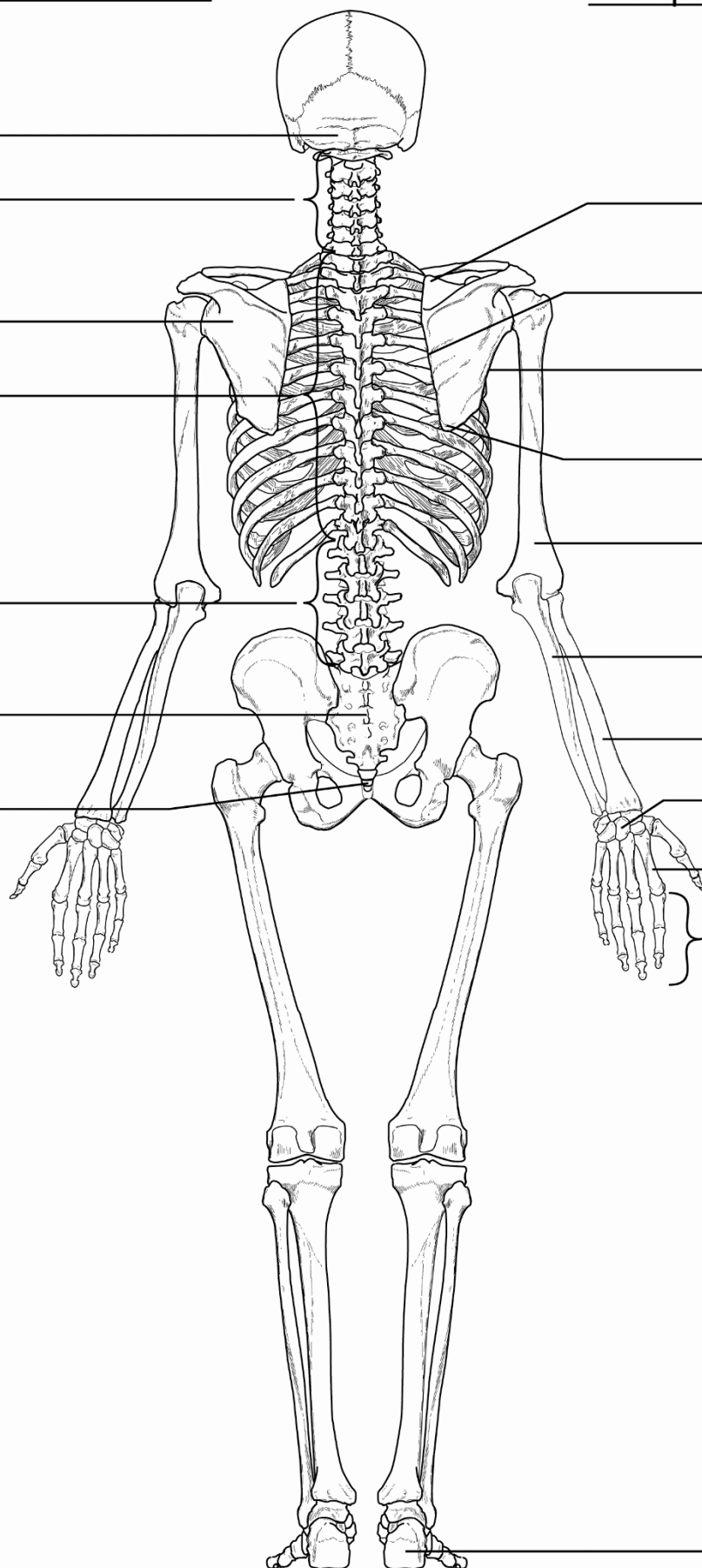
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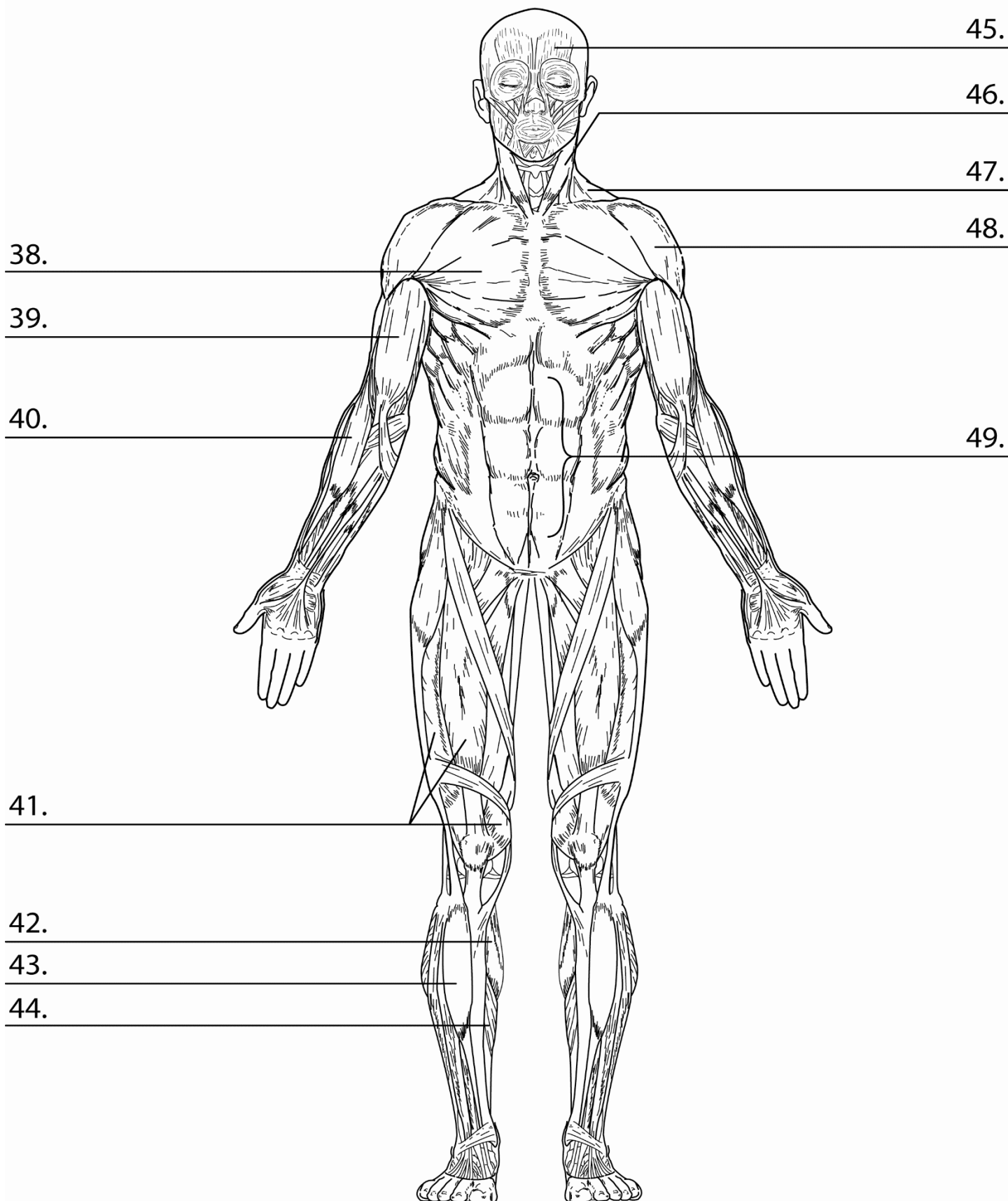
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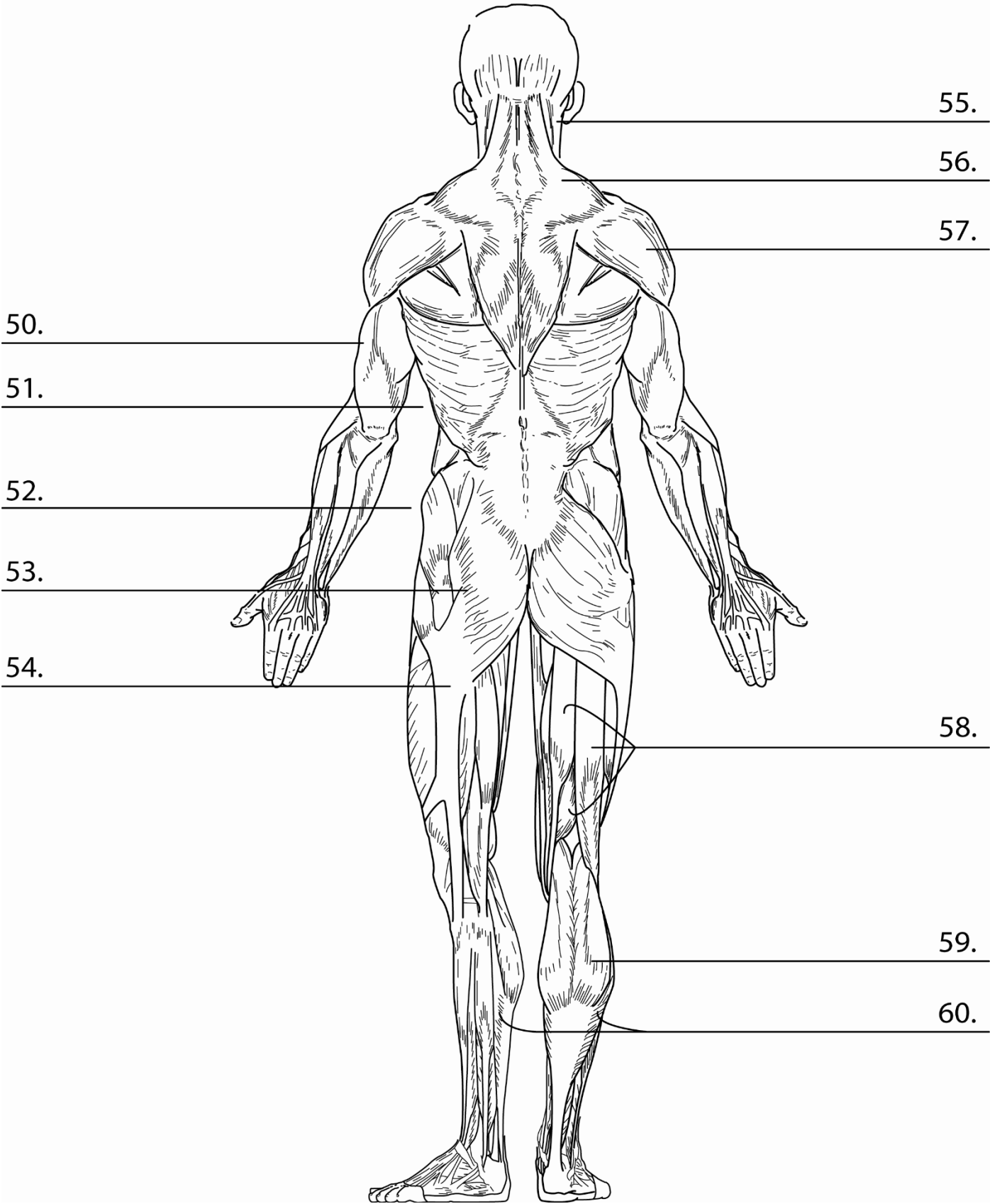
Name _____

Group Number _____



Name _____

Group Number _____



Guide to Anatomical Terms and Directions

1. **Anterior** - refers to the front of the body, i.e., everything you can see of a subject standing in anatomical position when you view them head on. (**Memory aid:** compare with **ante** up in cards = put your cards out in **front** of you.)
2. **Posterior** - refers to the back of the body, i.e., everything you can see of a subject standing in anatomical position when you view them from the back. (**Memory aid:** imagine a **post**man being bitten by a terrier on the **behind**.)
3. **Superior** - refers to something being higher (more towards the head) than something else. (**Memory aid:** people who feel **superior** turn their nose **up** in the air.)
4. **Inferior** - refers to something being closer to the ground than something else. (**Memory aid:** people with **inferiority** complexes slump **down** toward the ground.)
5. **Medial** - refers to something being closer to the midline than something else. (**Memory aid:** the **median** strip of the highway runs down the **middle**.)
6. **Lateral** - refers to structures that are further away from the midline. (**Memory aid:** - a lateral pass in football goes to the **side**.)
7. **Proximal** - refers to structures on a limb. Structures that are proximal are closer to the attachment of that limb to the trunk of the body. (**Memory aid:** **Approximately** means near or **close** to.)
8. **Distal** - refers to structures on a limb. Structures that are distal are further from the attachment of that limb to the trunk of the body. (**Memory aid:** **Distant** means far **away**.)

Guide To Bony Landmarks

Bones are rarely flat. They have bumps and depressions that serve to increase their surface area thereby making better attachment points for muscles. Most of the bumps and depressions have names.

1. **Process** - a broad designation for a bump on a bone (e.g., mastoid process, xiphoid process)
2. **Spine** - an abrupt or pointed projection (e.g., the spine of the scapula, the anterior superior iliac spine)
3. **Trochanter** - a large blunt process (e.g., greater and lesser trochanters of the femur)
4. **Tubercle** - a small bump (e.g., the greater and lesser tubercles of the humerus)
5. **Tuberosity** - a large, often rough bump (e.g., ischial tuberosity)
6. **Line** - a ridge that doesn't stick up very far (e.g., the linea aspera of the femur)
7. **Crest** - a prominent ridge (e.g., the iliac crest)
8. **Head** - a large rounded end of a long bone, usually set off from the rest of the bone by a "neck" (e.g., the head of the humerus, the head of the femur)
9. **Condyle** - the rounded end of a long bone, usually not set off by a neck, usually smaller than a head (e.g., the medial and lateral condyles of the femur)
10. **Epicondyle** - a bump above a condyle (e.g., the medial and lateral epicondyles of the humerus are located above the medial and lateral condyles of the humerus)
11. **Facet** - a smooth, mostly flat surface on a bone. (E.g., the facets of the vertebrae)
12. **Fossa** - a basin-like depression in a bone (e.g., supraspinous fossa)
13. **Foramen** - a hole in a bone (e.g., Foramen magnum on skull, foramina on sacrum)
14. **Notch** - a deep indentation in a bone (e.g., sciatic notch)
15. **Angle** - a diverging of two bony edges from common point (e.g., superior and inferior angles of the scapula)

Glossary of Terms

Open your Trail Guide eBook in Bookshelf:

1. Open the **Table of Contents**
2. Scroll down to **Appendixes**
3. Click/tap **Appendixes**
4. Click/tap **Glossary of Terms**

Pronunciation and Etymology

Etymology (et-i-mol-o-gee): the science of the origin and development of a word

Open your Trail Guide eBook in Bookshelf:

1. Open the **Table of Contents**
2. Scroll down to **Appendixes**
3. Click/tap **Appendixes**
4. Click/tap **Pronunciation and Etymology**

Trail Guide Student Workbook

Bones Class

1. Student Workbook page 7

- a. Identify the planes, directions and positions.
- b. You will see the choices in a square on the page.

2. Student Workbook page 8 – top half of page only

- a. Match the word to the appropriate definition. (#1-10).

3. Student Workbook pages 14-15

- a. Identify as many structures as you can.
- b. You will see the choices in a square on the page.
- c. There will be some structures you have not yet had.
 - i. Given time, you can figure out those structures from your Trail Guide, pages 32-33.
- d. This exercise gives you a chance to see these structures differently than in your packet.

Muscles Class

1. Student Workbook pages 16-18

- a. Identify as many muscles as you can.
- b. You will see the choices in a square on the page.
- c. There will be some muscles you have not yet had.
 - i. Given time, you can figure out those structures from your Trail Guide, pages 35-37.
- d. This exercise gives you a chance to see these muscles differently than in your packet.

NOTE: The answers for all the above exercises can be found in the back of the Student Workbook

eBook Tip

- On the last page of your Trail Guide to the Body eBook, you will find a list of muscles for which there are palpation instruction videos online.
- To access these videos, open a web browser and navigate to www.booksofdiscovery.com

- Click **FOR STUDENTS** at the top of the page

FOR STUDENTS

- Click **Register to access resources**
- Follow the instructions to create your account.
- You will need access to your eBook to create your account.

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Trail Guide to the Body ▼

Validation*

Please consult Trail Guide to the Body, Fourth or Fifth Edition, and answer the following question.

Q: On page 294, what is the second word in the first paragraph?

Type your answer here.

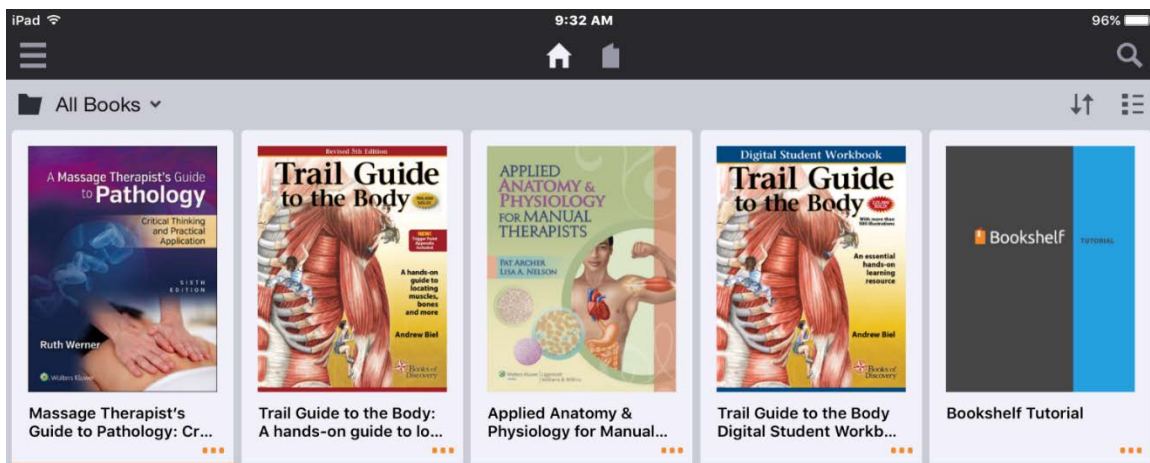
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Steps to Prepare Bones and Muscles Test for Grade Entry in my.nhi.edu

Bones and Muscles Test

1. Open your **Anatomy & Physiology** course
2. Open the **Anatomy & Physiology - TESTS** course
3. Tap/click on **Bones and Muscles Test** assignment
4. Select **Mark Assignment as Complete** checkbox
5. Tap/click **Save Assignment**