

# SI Forensics - Full Discipline Demo

## Forensic Anthropology

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### Final Report - Answer Guide

|                    |                                     |
|--------------------|-------------------------------------|
| <b>Institution</b> | Science Interactive University      |
| <b>Session</b>     | SI Forensics - Full Discipline Demo |
| <b>Course</b>      | SI Forensics - Full Discipline Demo |
| <b>Instructor</b>  | Sales SI Demo                       |

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### Test Your Knowledge

Match each term with the best definition.

⌘ Forensic Anthropology

⌘ Anthropometry

⌘ Living Stature

⌘ Anatomical Method

⌘ Mathematical Method

The height of the individual when they were alive.

1

The specialized field that utilizes knowledge of the human skeletal system to identify human remains.

2

Process used to calculate the height of a living individual using measurements from various skeletal elements from the cranium to the foot, which are then adjusted to account for the addition of soft tissues.

3

The study of the systematic measurement and correlation of the physical properties of the human body.

4

Process used to calculate the height of a living individual using the measurement of an intact long bone with equations dependent on the subject's sex and race.

5

Correct answers:

- 1 Living Stature    2 Forensic Anthropology    3 Anatomical Method  
4 Anthropometry    5 Mathematical Method

Categorize each statement based on the feature involved and whether it relates to a male or female skeleton.

⚡ Narrow (30°)

⚡ Sharp

⚡ Sloping

⚡ Wide (60°)

⚡ Gracile

⚡ Round and narrow

⚡ Robust

⚡ Vertical and smooth

⚡ Square and wide

⚡ Rounded

|                              | Male | Female |
|------------------------------|------|--------|
| <b>Overall Skeleton</b>      | 1    | 2      |
| <b>Chin</b>                  | 3    | 4      |
| <b>Greater Sciatic Notch</b> | 5    | 6      |
| <b>Orbital Margins</b>       | 7    | 8      |
| <b>Forehead</b>              | 9    | 10     |

Correct answers:

- 1   Robust

2   Gracile

3   Square and wide

4   Round and narrow

5   Narrow (30°)

6   Wide (60°)

7   Rounded

8   Sharp

9   Sloping

10   Vertical and smooth

## Exploration

**Anthropometry allows forensic anthropologists to use the known measurement of one body part to estimate the measurements of other body parts by using established formulas due to the consistency of the ratios of body parts.**

- ☒ True ✓
- ☐ False

**The ischiopubic ramus is wide in male skeletons and thin and narrow in female skeletons.**

- ☐ True
- ☒ False ✓

## Exercise 1

**Which long bone gave the most accurate estimation of living stature? Which bone gave the least accurate measurement?**

**Under what circumstances would it be appropriate to use long bone measurements to estimate living stature? Under what circumstances would this method be inappropriate?**

**What other factors, besides sex and ancestry, may affect the accuracy of the estimates for living stature?**

How did your procedure for measuring the length of long bones in this exercise differ from the method used for skeletal remains?

Data Table 1: Student Measurements  
(SAMPLE ANSWER BELOW)

| Structure Measured | Measurement (cm) | Calculated Living Stature (cm) |
|--------------------|------------------|--------------------------------|
| Tibia              | 33.2             | 162.77                         |
| Femur              | 36.5             | 147.4                          |
| Humerus            | 27.2             | 151.86                         |
| Living Stature     | 156.9            |                                |

Data Table 2: Volunteer Measurements  
(SAMPLE ANSWER BELOW)

| Structure Measured | Measurement (cm) | Calculated Living Stature (cm) |
|--------------------|------------------|--------------------------------|
| Tibia              | 37.9             | 176.6                          |
| Femur              | 38.3             | 151.9                          |
| Humerus            | 28.4             | 155.9                          |
| Living Stature     | 162.5            |                                |

## Competency Review

\_\_\_\_\_ is the study of the systematic measurement and correlation of the physical properties of the human body.

- 
- ☐ Anthropology

☐ Living stature

☒ Anthropometry

☐ Skeletonization



**Forensic anthropology is used to identify skeletal remains.**

- ☐ True ✓
- ☐ False

**If an intact skeleton is located, the skeleton can be reassembled, and the length of the skeleton is equivalent to the living stature of the individual.**

- ☐ True
- ☐ False ✓

**The \_\_\_\_\_ will be more prominent in male skeletons than in female skeletons.**

- ☐ brow ridge ✓
- ☐ forehead
- ☐ greater sciatic notch
- ☐ subpubic concavity

**The female pelvis has structures that aren't present in the male pelvis.**

- ☐ True ✓
- ☐ False

**In Exercise 1, you used the \_\_\_\_\_ to estimate living stature.**

- ☐ anatomical method
- ☐ mathematical method ✓

**Using long bones to calculate living stature gives an estimate but does not produce a perfect calculation.**

- ☐ True ✓
- ☐ False

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**All long bones provide the same level of accuracy in estimating living stature as long as they are intact.**

☐ True

☒ False



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## Extension Questions

**In addition to bones, teeth are often recovered with skeletonized human remains. If a person had dental work done when they were alive, how might that assist a forensic anthropologist in identifying their remains?** (SAMPLE ANSWER BELOW)

If the individual had dental work done when they were alive, then the presence of the dental work on the teeth could be used to identify the individual. For example, if fillings are discovered on three of the teeth, these could be matched to dental records of an individual that had the exact same dental work done.