

*O. S. Miroshnikova*  
*V. P. Gorbatenko*

# **WORKBOOK**

**for students**  
**specialty 211 Veterinary Medicine**  
**212 Veterinary Hygiene, Sanitation and Expertise**



**MINISTRY OF EDUCATION AND SCIENCES OF UKRAINE**

**STATE BIOTECHNOLOGICAL UNIVERSITY**

*Department of Normal and Pathological Morphology*

*O. S. Miroshnikova*

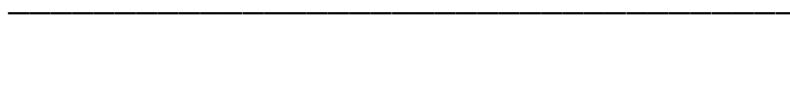
*V. P. Gorbatenko*

# **W o r k b o o k**

**for independent work of students**

**specialty 211 Veterinary Medicine**

**212 Veterinary hygiene, sanitation and expertise**



**Kharkiv, 2022**

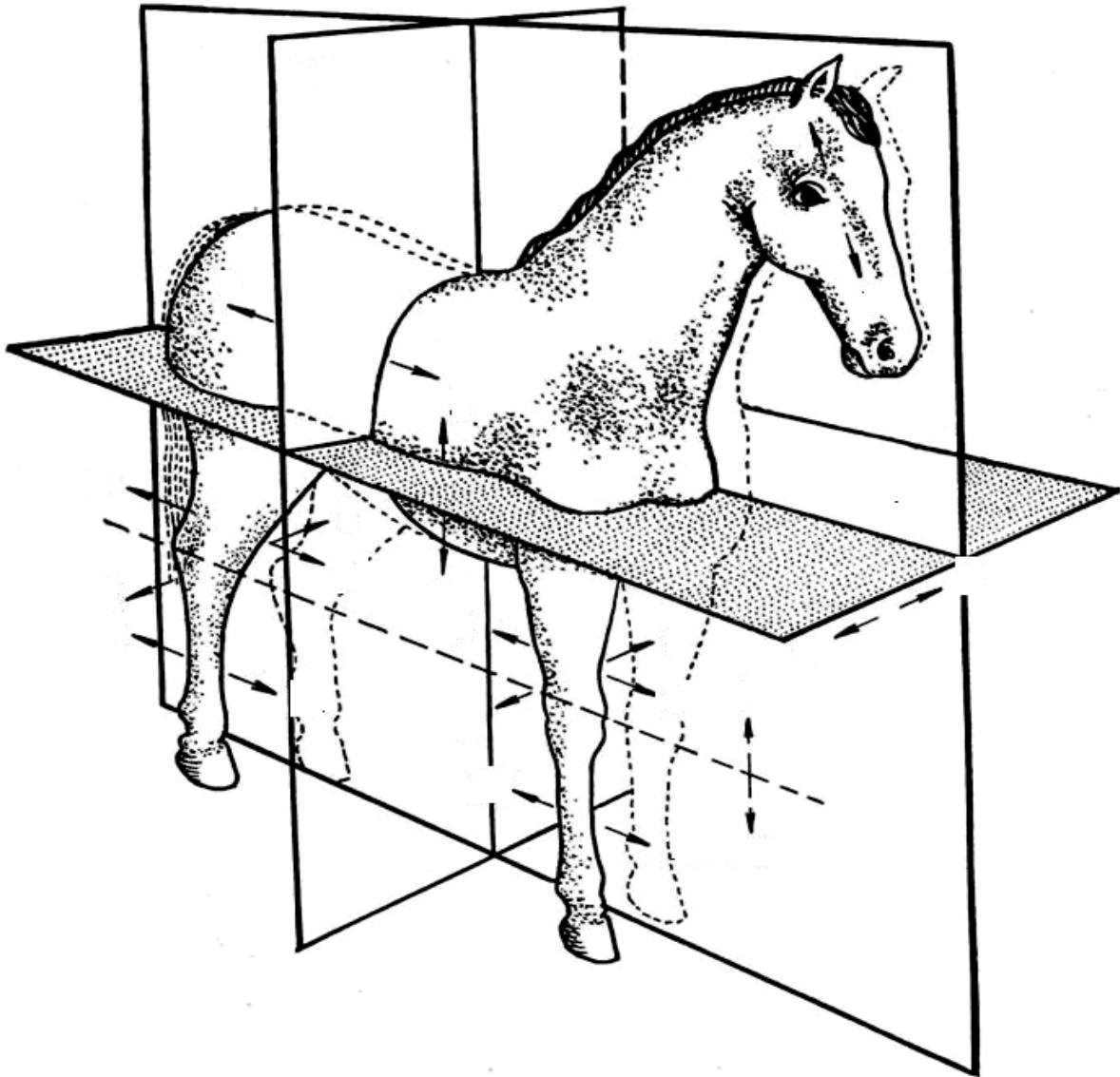
**UDK 611.1 / .6: 636**

**B 53**

**Workbook** for independent work of students with specialty 211 Veterinary Medicine, 212 Veterinary hygiene, sanitation and expertise / O.S. Miroshnikova, V.P. Gorbatenko // Kharkiv, 2022. – 68 p.

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## SOMATIC SYSTEMS



### Planes and directions in the animal body

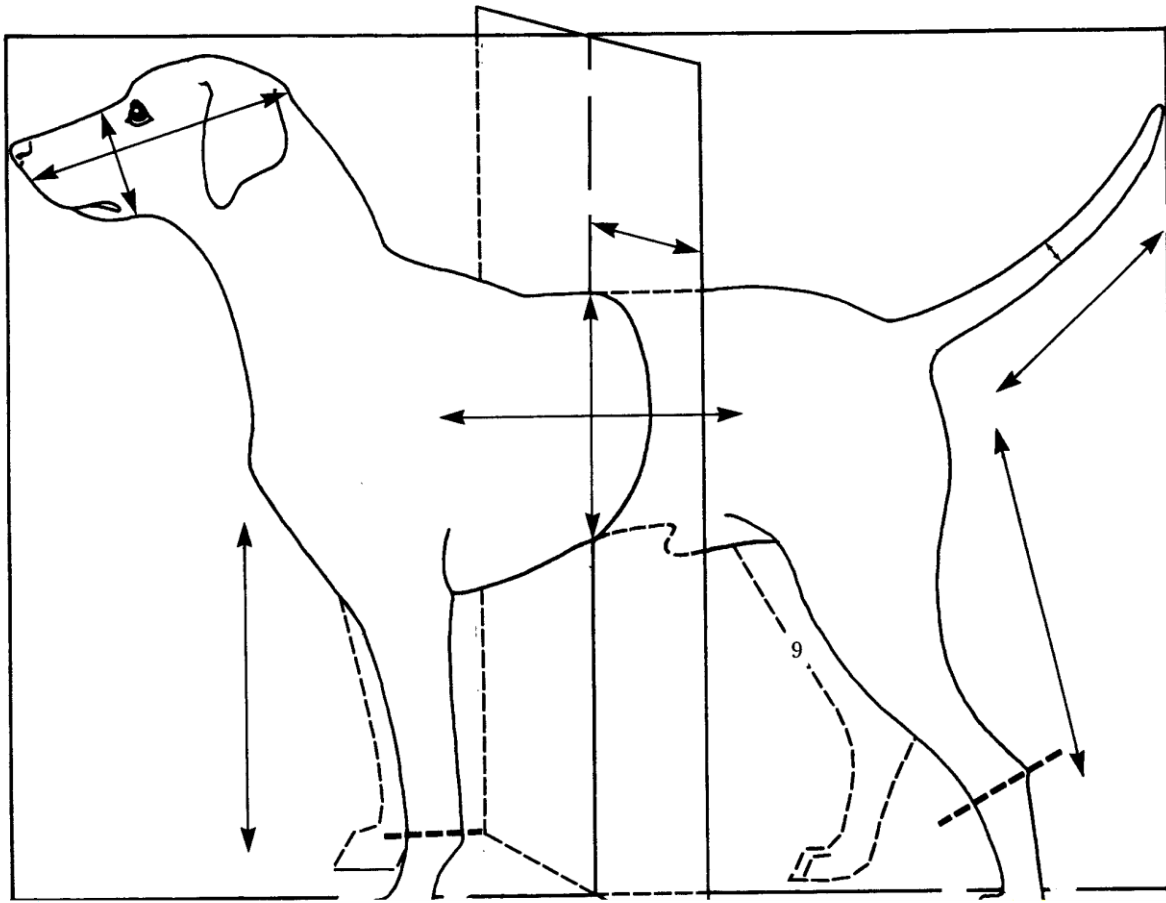
#### Plane:

- 1 – middle sagittal (median)
- 2 – sagittal
- 3 – frontal
- 4 – segmental

#### Direction:

- |             |                                  |
|-------------|----------------------------------|
| 5 – cranial | 10 – medial                      |
| 6 – caudal  | 11 – distal                      |
| 7 – dorsal  | 12 – proximal                    |
| 8 – ventral | 13 – dorsal surface of the limbs |
| 9 – lateral | 14 – caudal surface of the limbs |

**Task:** write the numbers in the picture.



### Planes and directions in the animal body

**Plane:**

\* – middle sagittal (median)

\*\* – segmental

**Direction:**

1 – cranial

2 – caudal

3 – dorsal

4 – ventral

5 – oral

6 – aboral

7 – lateral

8 – medial

9 – proximal

10 – distal

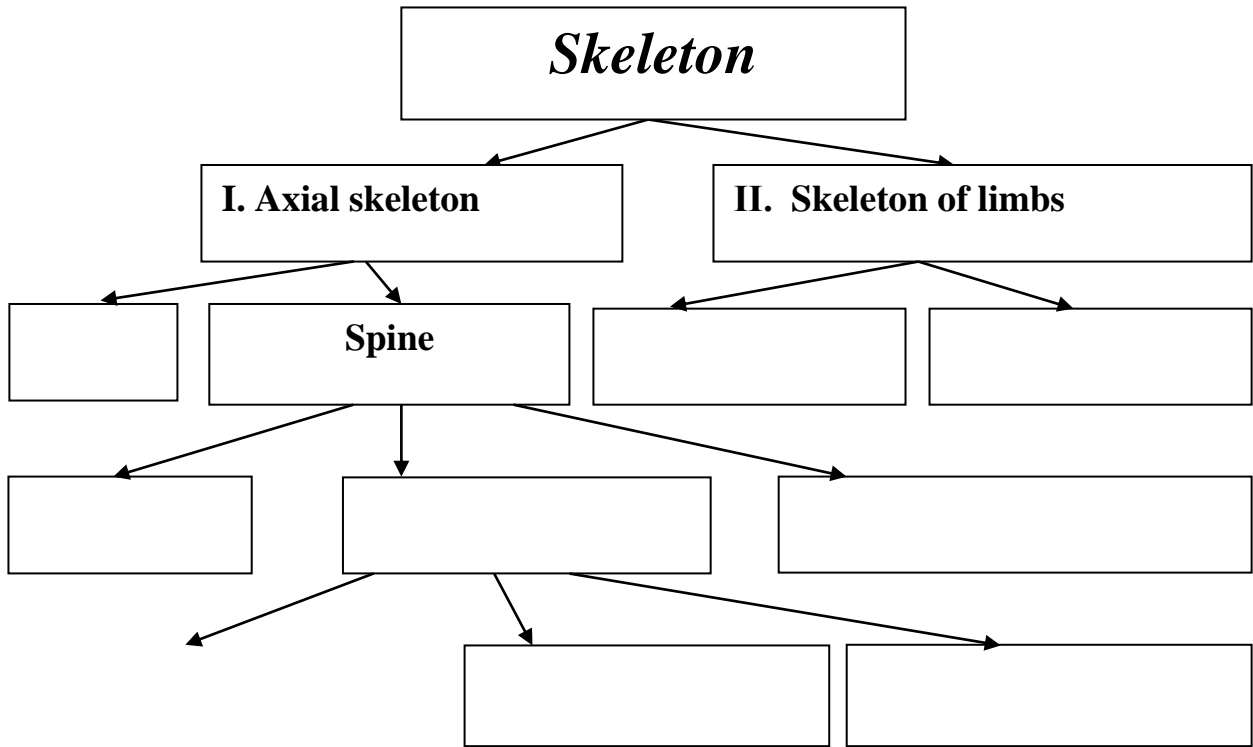
11 – palmar (caudal direction on the palm)

12 – plantar (caudal direction on the sole)

**Task:** write the numbers in the picture.

***SKELETAL SYSTEM  
OSTEOLOGY***

***Division of the skeleton into sections***

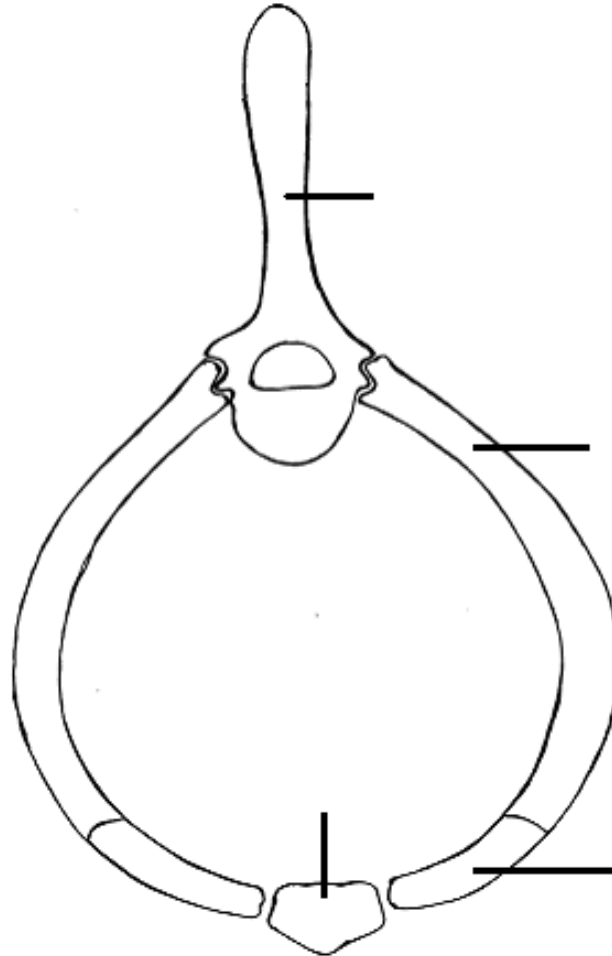


The spine is formed of the vertebrae:

- .....
- .....
- .....
- .....
- .....

***Task:*** complete the scheme and write name of vertebrae.

## Axial skeleton



### Complete bone segment

- 1 – thoracic vertebrae – .....
- 2 – pair of the ribs – .....
  - a – rib bone – .....
  - b – rib cartilage .....
- 3 – segment of the sternum

**Task:**

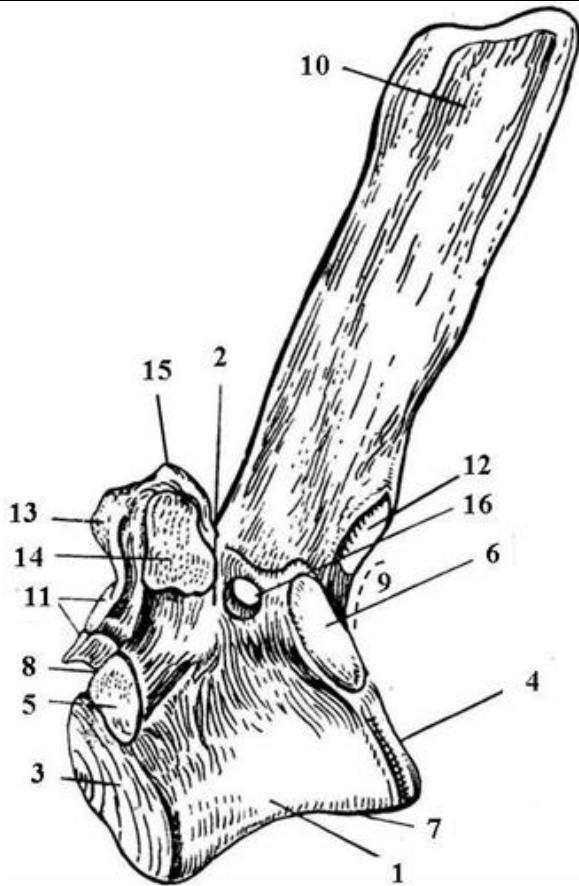
1. Write the numbers in the picture and add Latin terminology.
2. Write in number the complete bone segments of the skeleton for these animals:

horse.....  
 cattle.....  
 dog.....

## Number of vertebrae

Animal species	Divisions of the vertebral channel					Total
	Cervical	Thoracic	Lumbar	Sacral	Caudal	
<b>Cattle</b>						
<b>Horse</b>						
<b>Dog</b>						

*Task:* Write the number of vertebrae



**Thoracic vertebra of cattle**

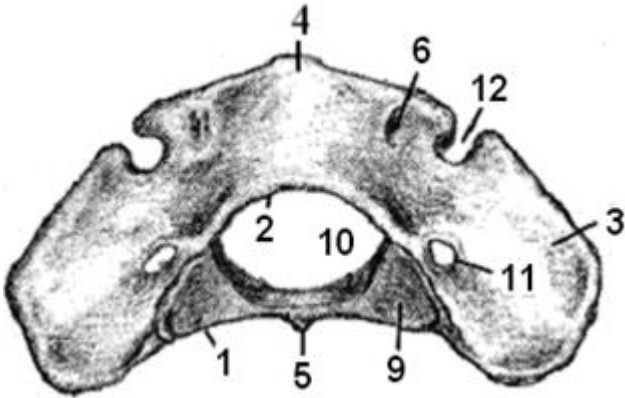
- 1 - .....
- 2 - .....
- 3 - .....
- 4 - .....
- 5 - .....
- 6 - .....

- 7 - .....
- 8 - .....
- 9 - .....
- 10 - .....
- 11 - .....
- 12 - .....
- 13 - .....
- 14 - .....
- 15 - .....

*Task:* add terminology according to numbering of the picture.

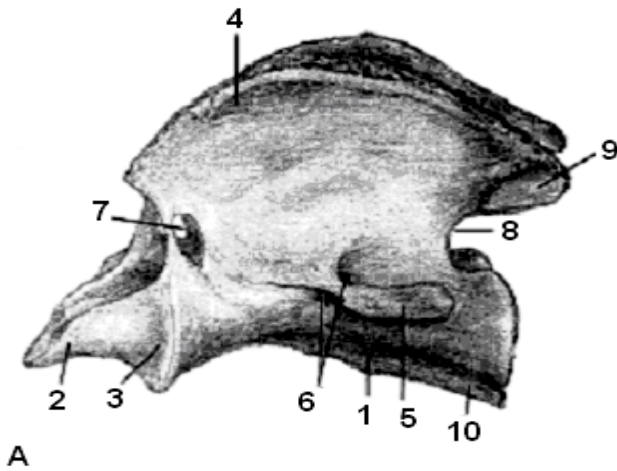


**Atlas of dog**



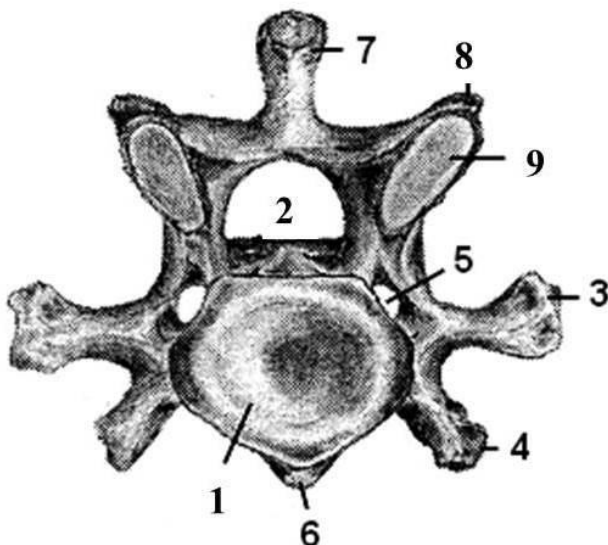
- 1 - .....
- 2 - .....
- 3 - .....
- 4 - .....
- 5 - .....
- 6 - .....
- 9 - .....
- 10 - .....
- 11 - .....
- 12 - .....

**Second cervical vertebra  
(axis) of the horse**



- 1 - .....
- 2 - .....
- 3 - .....
- 4 - .....
- 5 - .....
- 6 - .....
- 7 - .....
- 8 - .....
- 9 - .....
- 10 - .....

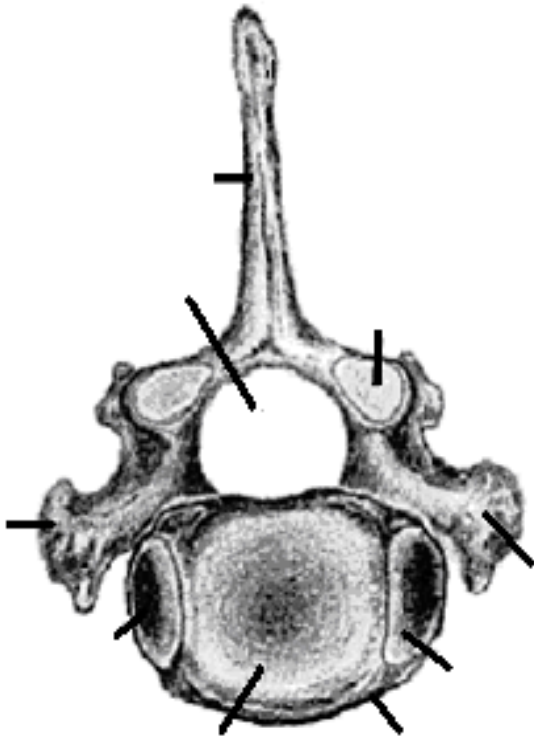
**Typical cervical vertebra  
of cattle**



- 1 - .....
- 2 - .....
- 3 - .....
- 4 - .....
- 5 - .....
- 6 - .....
- 7 - .....
- 8 - .....
- 9 - .....

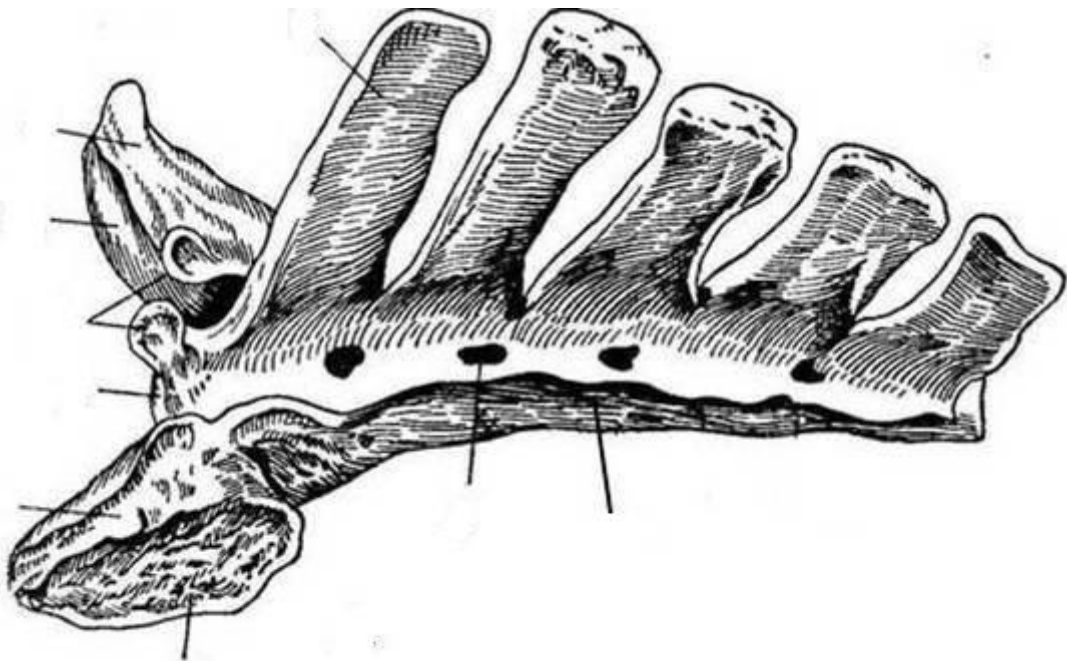
**Task:** add terminology according to numbering of the pictures.

### Seventh cervical vertebra of cattle



- 1 –.....
- 2 –.....
- 3 –.....
- 4 –.....
- 5 –.....
- 6 –.....
- 7 –.....
- 8 –.....
- 9 –.....

**Task:** write the numbers in the picture and add terminology.



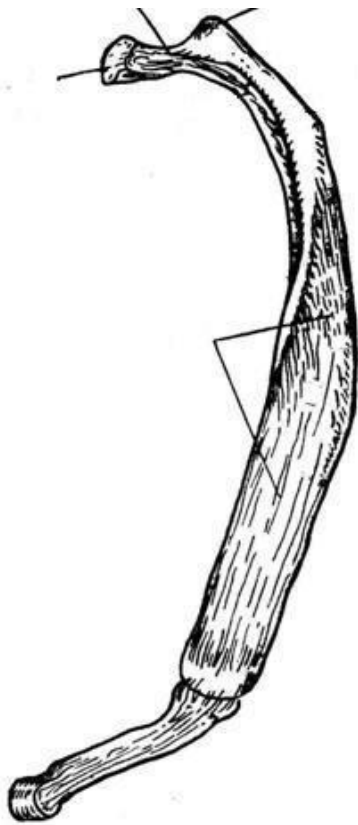
### Sacral bone of horse

- 1 – head
- 4 – dorsal sacral foramina
- 5 – median sacral crest
- 6 – cranial articular processes
- 7 – intermedian sacral crest
- 8 – lateral sacral crest
- 9 – wing of sacrum
- 10 – auricular surface
- 11 – articular surfaces on the wings of horse's sacrum

**Task:** number picture according to terminology.

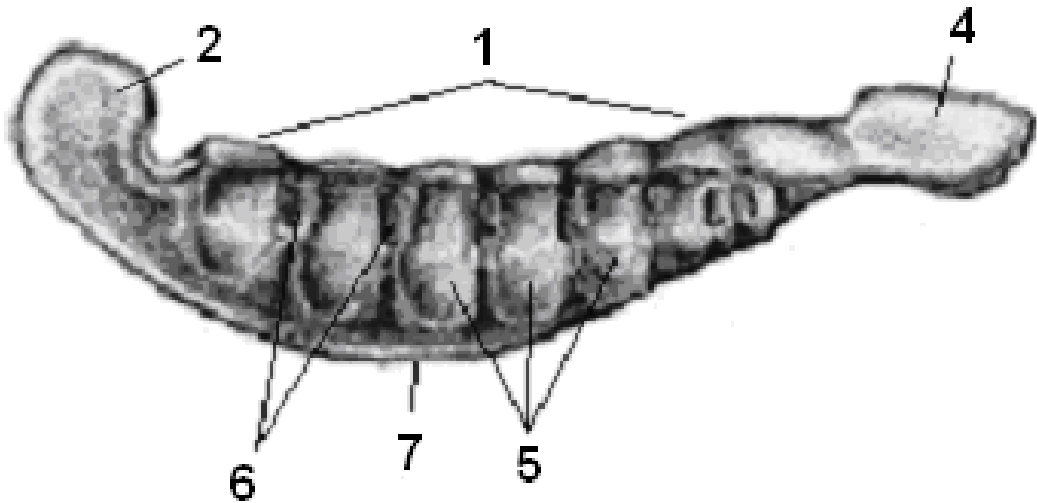
## Rib (cattle)

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A – rib bone  
 B – rib cartilage

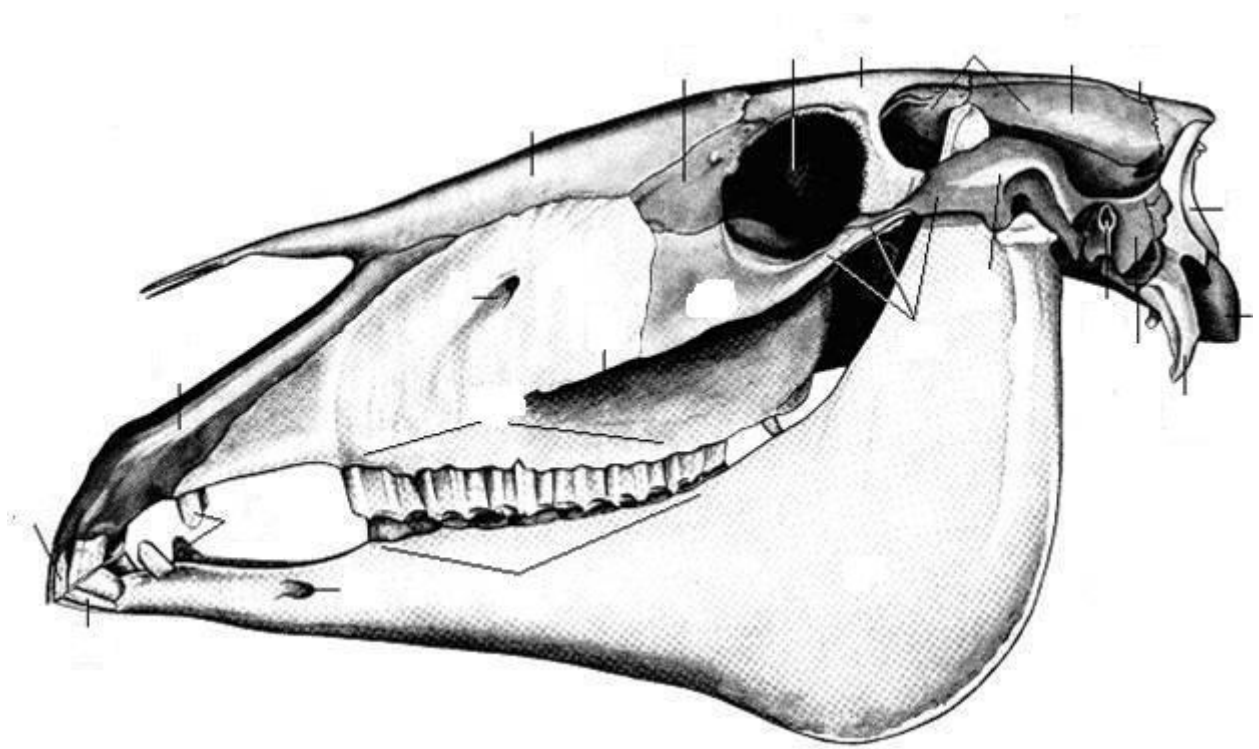
- 1 – .....
- 2 – .....
- 3 – .....
- 4 – .....



**Sternum of horse**

- 1 – .....
- 2 – .....
- 3 – .....
- 4 – .....
- 5 – .....
- 6 – .....
- 7 – .....

**Task:** add terminology according to numbering of the pictures.



**Skull of horse – .....**

- 1 – parietal bone
- 2 – frontal bone
- 3 – occipital bone
- 4 – lacrimal bone
- 5 – nasal bone
- 6 – maxilla

- 7 – mandible
- 8 – temporal bone
- 9 – petrosal bone
- 10 – zygomatic bone
- 11 – incisive bone

12

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13

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14

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15

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16

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17

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18

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19

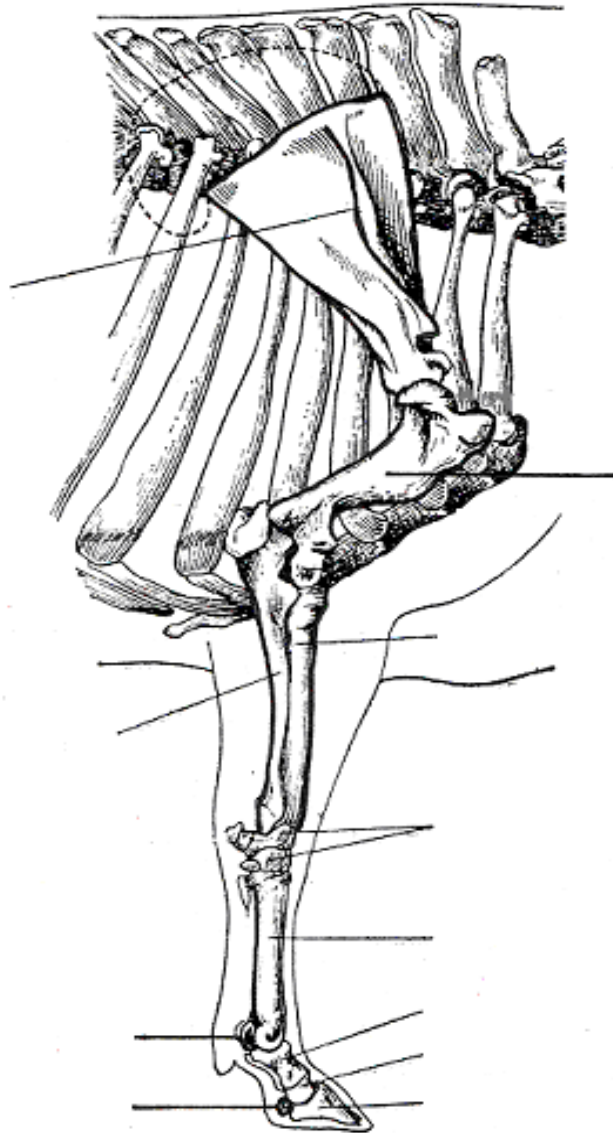
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20

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**Task:** write the numbers in the picture and continue the designations from 12.

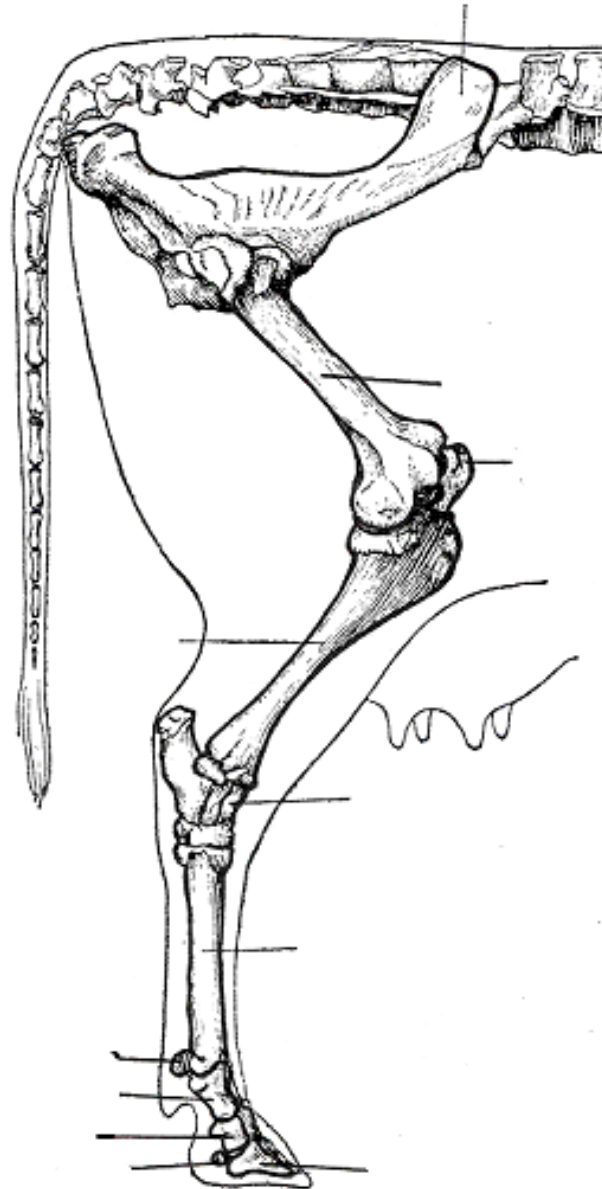
## APPENDICULAR SKELETON



**Skeleton of the thoracic limb**

- 1 – scapula
- 2 – brachium, s. humerus
- 3 – radius
- 4 – ulna
- 5 – ossa carpi
- 6 – ossa metacarpi
- 7 – phalanx proximalis
- 8 – phalanx media
- 9 – phalanx distalis
- 10 – ossa sesamoidea proximalia
- 11 – os sesamoidea distalis

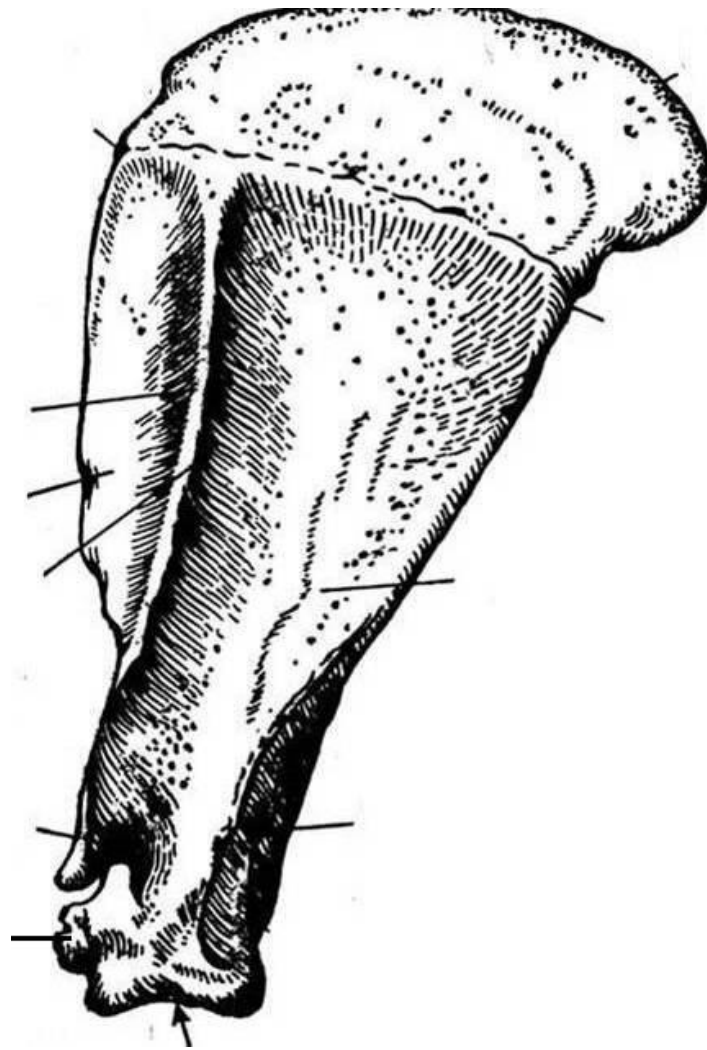
**Task:** write the numbers in the picture.



**Skeleton of the pelvic limb of the cattle**

- 1 – os coxae
- 2 – os femoris
- 3 – patella
- 4 – ossa cruris
- 5 – ossa tarsi
- 6 – ossa metatarsi
- 7 – phalanx proximalis
- 8 – phalanx media
- 9 – phalanx distalis
- 10 – ossa sesamoidea proximalia
- 11 – os sesamoidea distalis

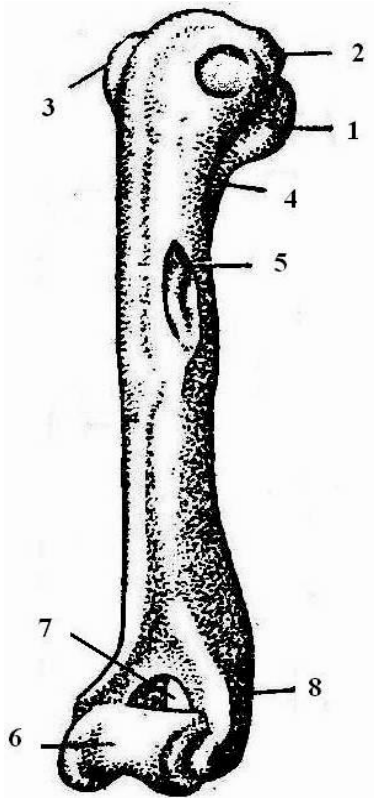
**Task:** write the numbers in the picture.



**Scapula of the cattle (left)**  
(lateral aspect)

- 1 – dorsal margin of scapula
- 2 – scapular cartilage
- 3 – cranial angle
- 4 – caudal angle
- 5 – glenoid cavity
- 6 – spina of scapula
- 7 – acromion
- 8 – supraspinous fossa
- 9 – infraspinous fossa
- 10 – neck of scapula

**Task:** designate the elements of scapula structure.



**Humerus of dog  
(dorsal surface)**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_

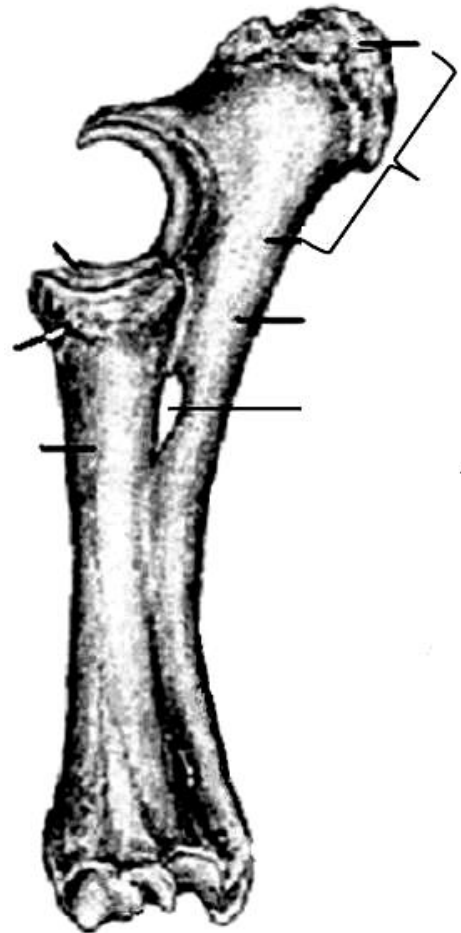
**Task:** add terminology according to numbering of the pictures.

**Antebrachial skeleton  
[skeleton of forearm]**

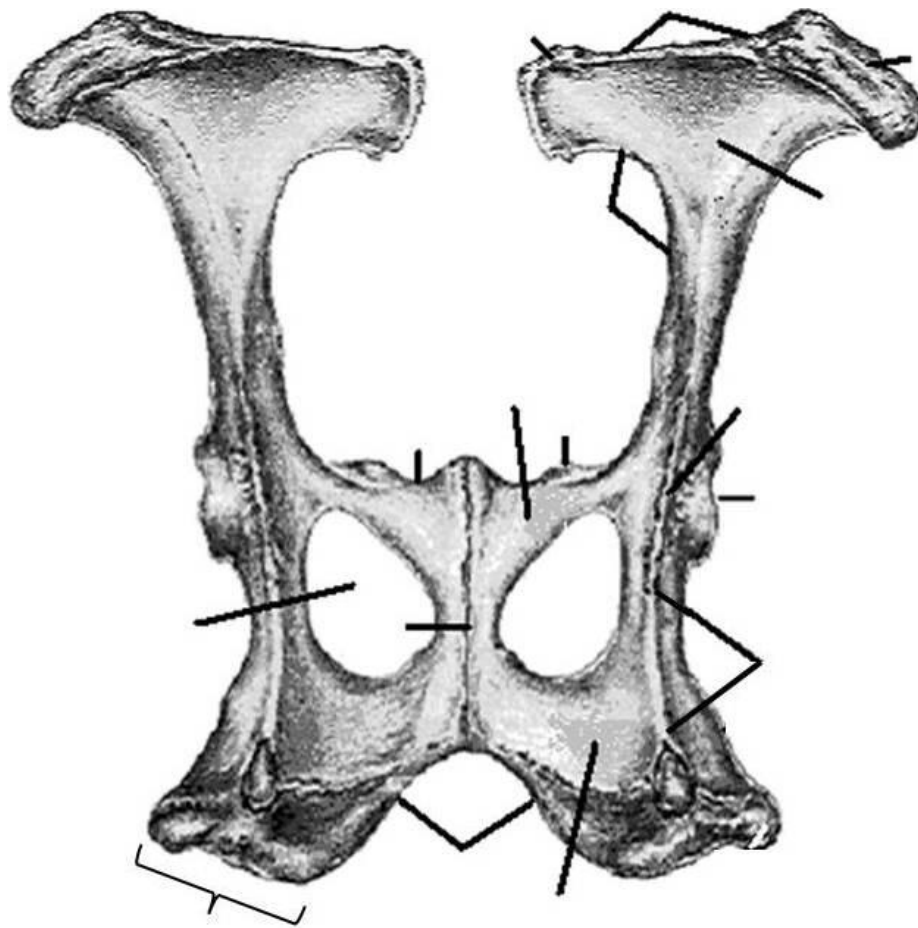
\_\_\_\_\_ *(animal)*

- 1 – radius
- 2 – head of radius
- 3 – tuberosity of radius
- 4 – carpal articular surface
- 5 – ulna
- 6 – olecranon
- 7 – tuber of olecranon
- 8 – proximal interosseous space
- 9 – distal interosseous space

**Task:** designate the elements of bones structure.







**Hip bone (coxal bone)**

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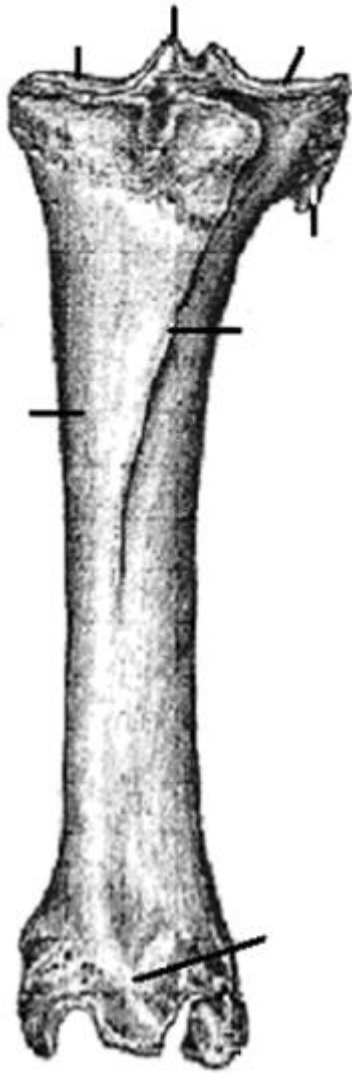
(animal)

- 1 – ilium
- 2 – pubis
- 3 – ischium
- 4 – acetabulum
- 5 – coxal tuber
- 6 – sacral tuber
- 7 – iliac crest
- 8 – greater ischiatic notch
- 9 – ischial spine
- 10 – lesser ischiatic notch
- 11 – ischiatic tuberosity
- 12 – ischial arch
- 13 – obturate foramen
- 14 – iliopectineal eminence
- 15 – symphyseal crest

**Task:** write the numbers in the picture.

## Skeleton of crus

(animal)



- 1 – tibia
- 2 – lateral condyle
- 3 – medial condyle
- 4 – intercondylar eminence
- 5 – cranial margin
- 6 – distal articular surface
- 7 – articular grooves
- 8 – medial condyle
- 9 – lateral condyle
- 10 – fibula

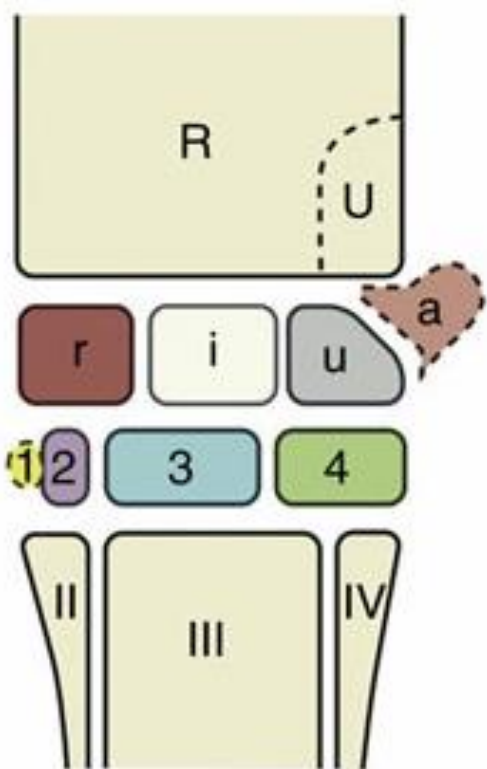
**Task:** write the numbers in the picture according to terminology.

## Tarsal and metatarsals bones of horse

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_



**Task:** sign all designations of the picture.



**Bones of**

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---

(kind of animal)

R

U

r

i

u

a

1

2

3

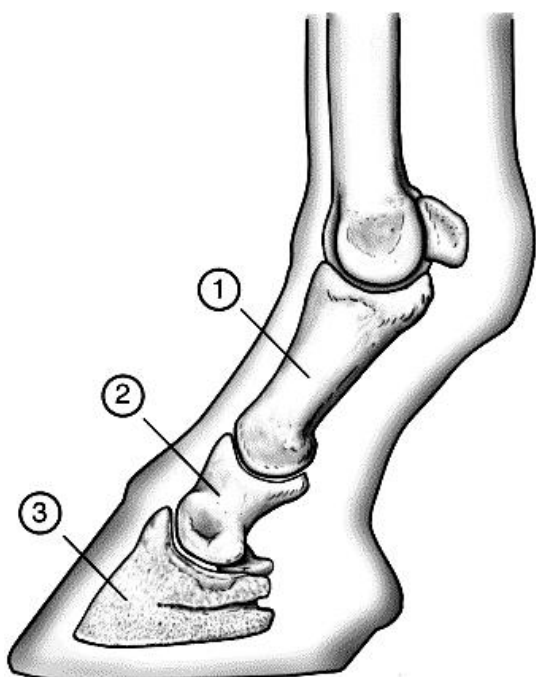
4

II

III

IV

**Task:** sign all designations of the picture.



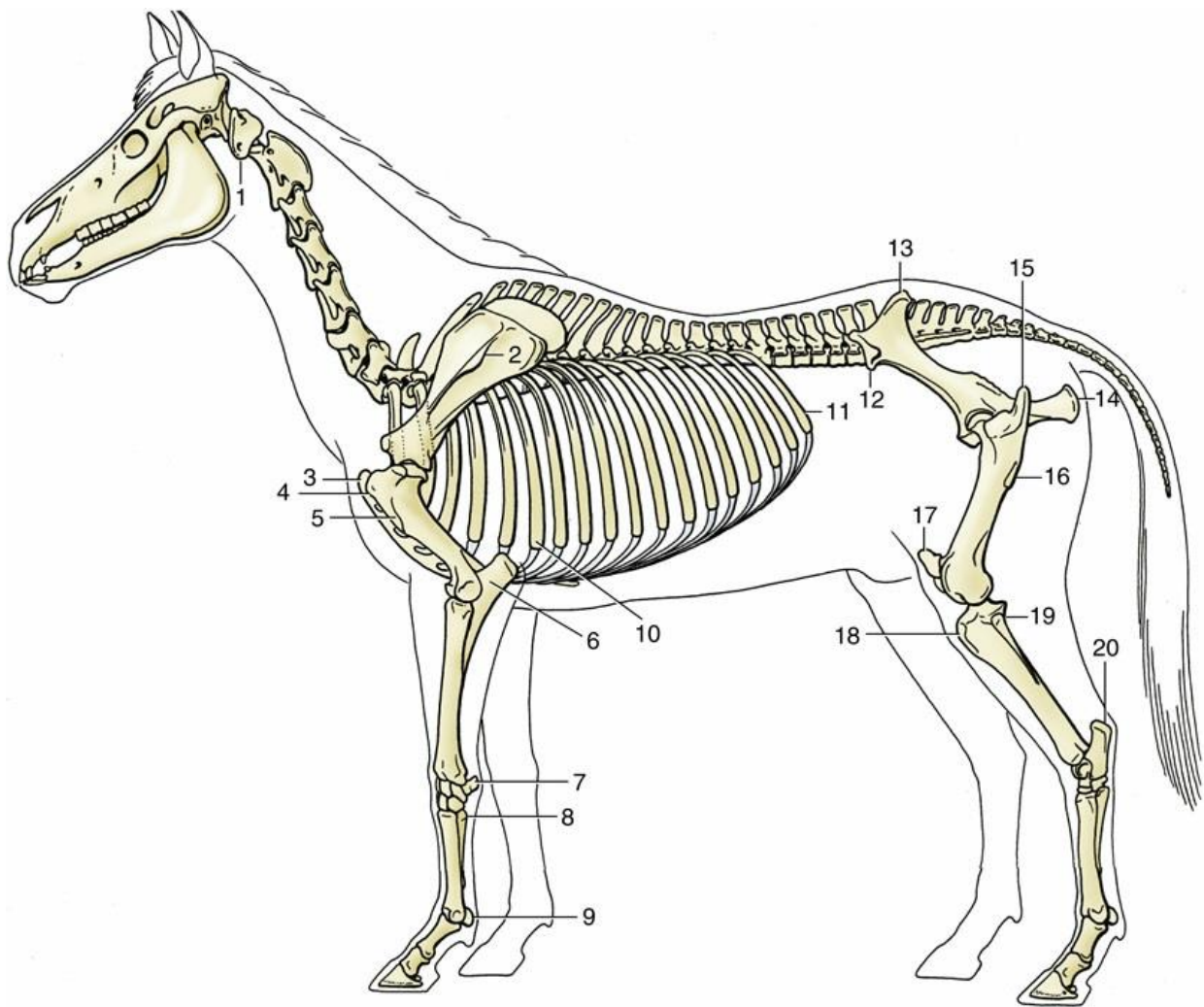
**What's number:**

1 - \_\_\_\_\_

2 - \_\_\_\_\_

3 - \_\_\_\_\_

**Task:** write all terms for each.



The skeleton of the \_\_\_\_\_

1. ....
2. ....
3. ....
4. ....
5. ....
6. ....
7. ....
8. ....
9. ....
10. ....
11. ....
12. ....
13. ....
14. ....

- 15.....
- 16.....
- 17.....
- 18.....
- 19.....
- 20.....

**Task:** sign all designations of the picture.

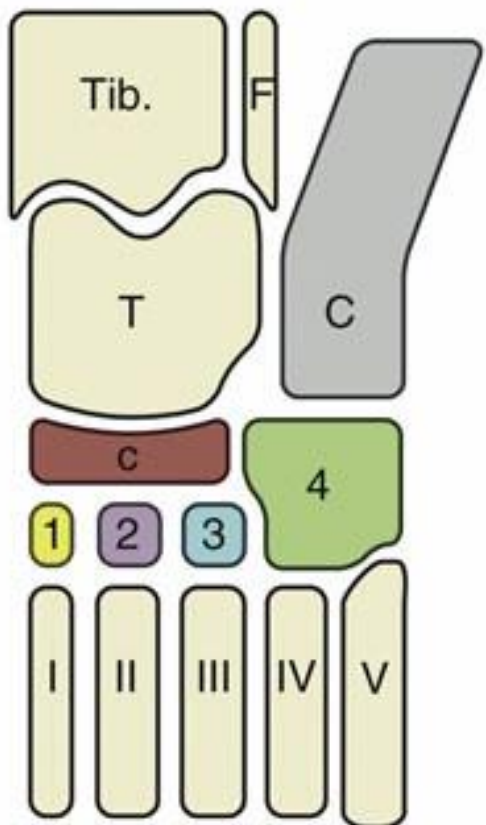
**Bones of**

**Tib**

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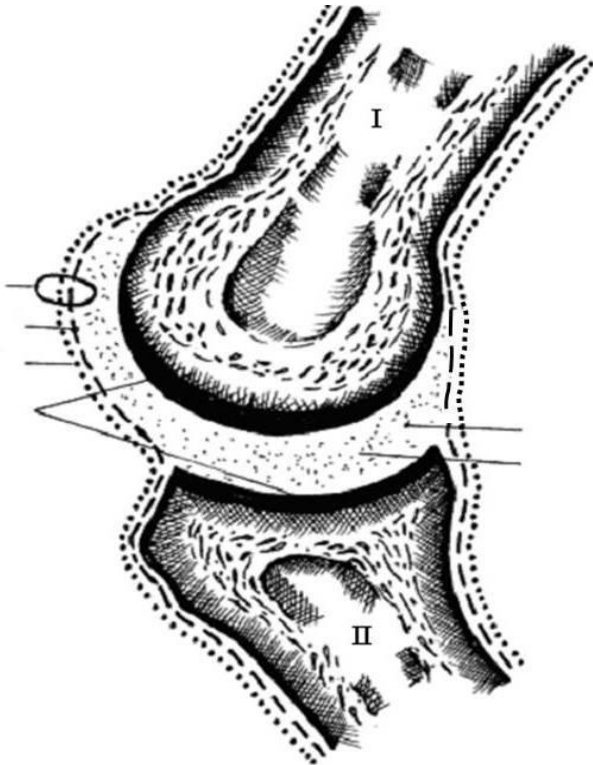
- 
- F
- 
- T
- 
- C
- 
- c
- 
- 1
- 
- 2
- 
- 3
- 
- 4
- 
- I
- 
- II
- 
- III
- 
- IV
- 
- V
- 

---

(kind of animal)

**Task:** sign all designations of the picture.

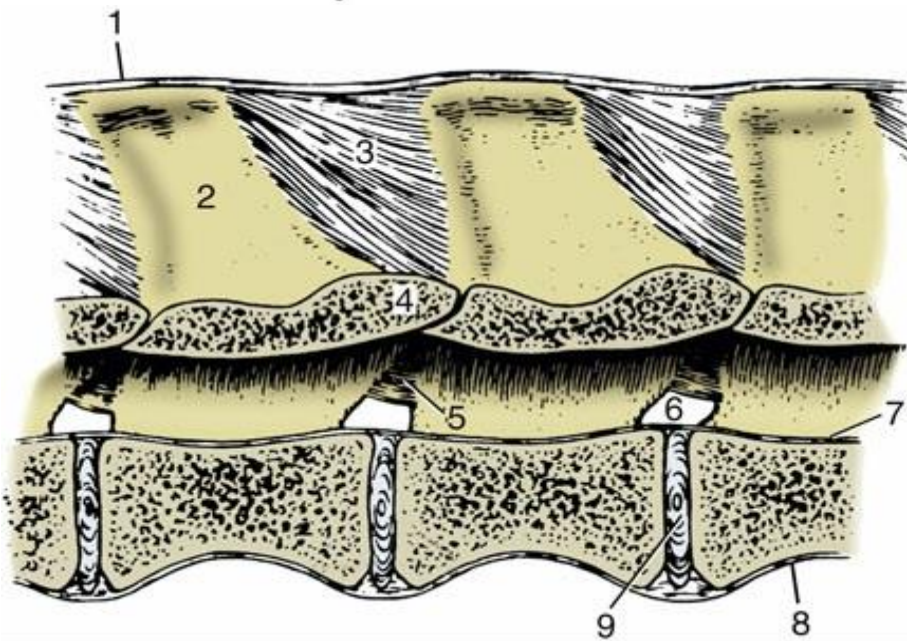
# ARTHROLOGY



## The structure of joint

- I, II – bone links
- 1 – articular capsule
  - a – fibrous layer
  - b – synovial layer
- 2 – synovial cavity
- 3 – synovial fluid
- 4 – articular cartilage

*Task:* designate the picture.

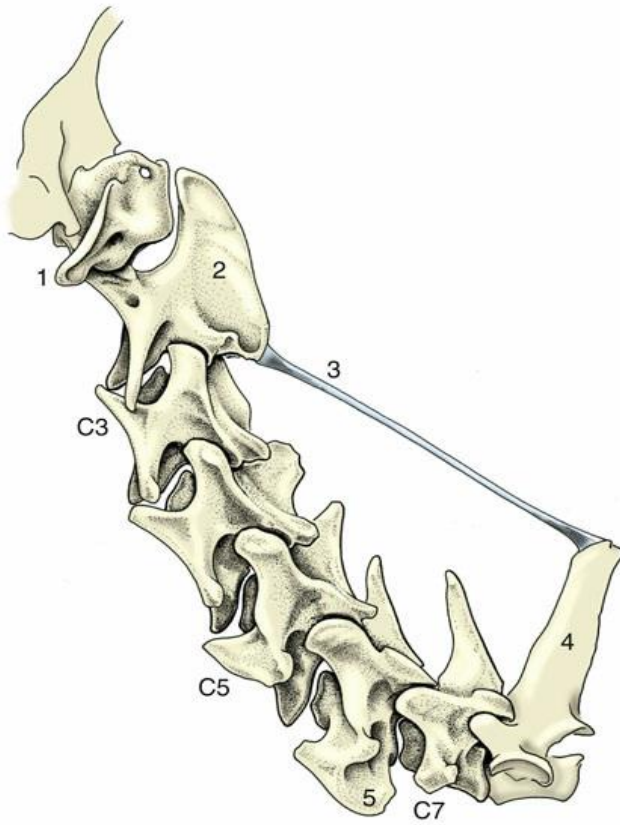


## Connection of the vertebrae

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_

- 6 \_\_\_\_\_
- 7 \_\_\_\_\_
- 8 \_\_\_\_\_
- 9 \_\_\_\_\_

*Task:* sign all designations of the picture.

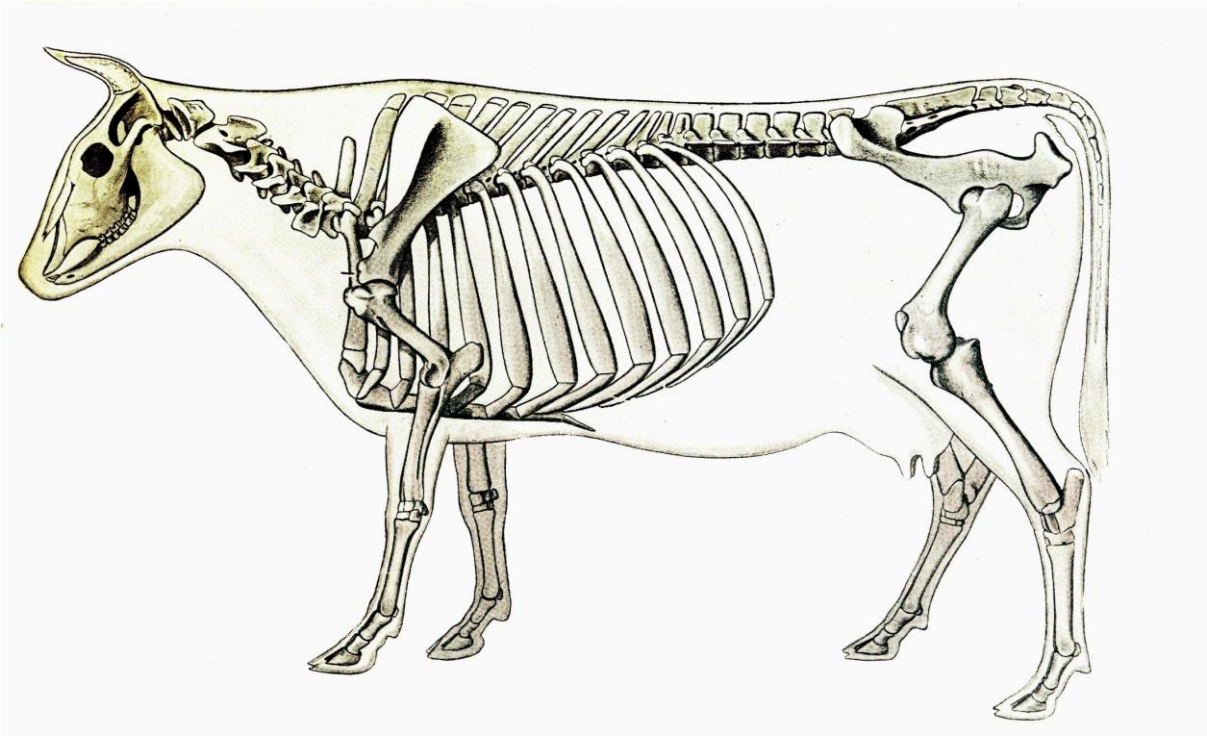


- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_
- C 3 \_\_\_\_\_
- C 5 \_\_\_\_\_
- C 7 \_\_\_\_\_

**Task:** sign all designations of the picture.

**Joints of axial skelen of the \_\_\_\_\_ (write in the natural seqency)**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_



**Joints of limbs of cattle**

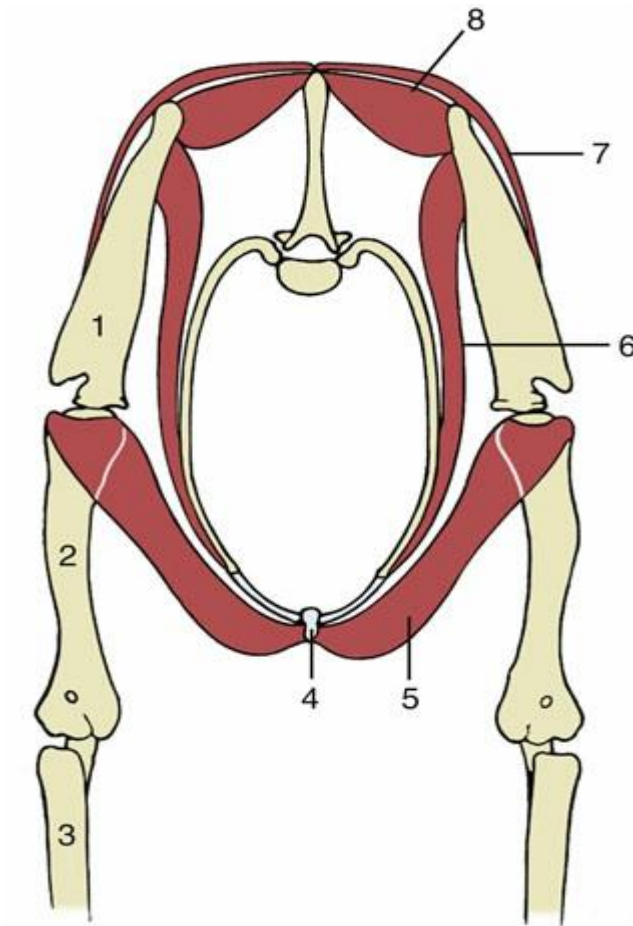
<b>Thoracic limb</b>	<b>Pelvic limb</b>
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
<i>Task:</i> ring and number joint, and write its name.	7.

**MUSCULAR SYSTEM**

**Accessory organs of muscular system**

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

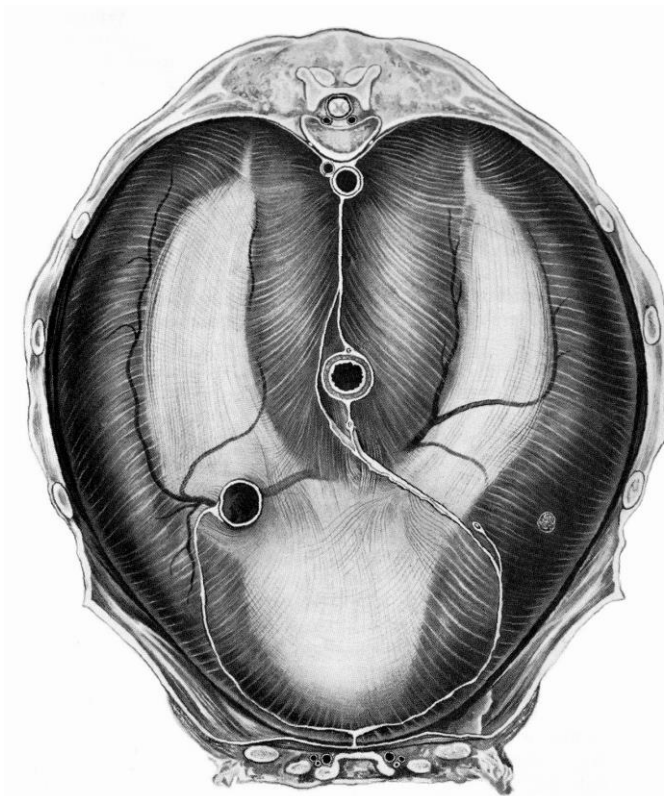




### Muscles of shoulder girdle

- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_
- 6 \_\_\_\_\_
- 7 \_\_\_\_\_
- 8 \_\_\_\_\_

**Task:** sign all designations of the picture.



### Diaphragm

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_

**Task:** write terminology and number the picture.

## LAYERED STRUCTURE OF VENTRAL ABDOMINAL WALL

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**Task:** write layers of ventral abdominal wall in natural sequence beginning outside.

## COMMON INTEGUMENT

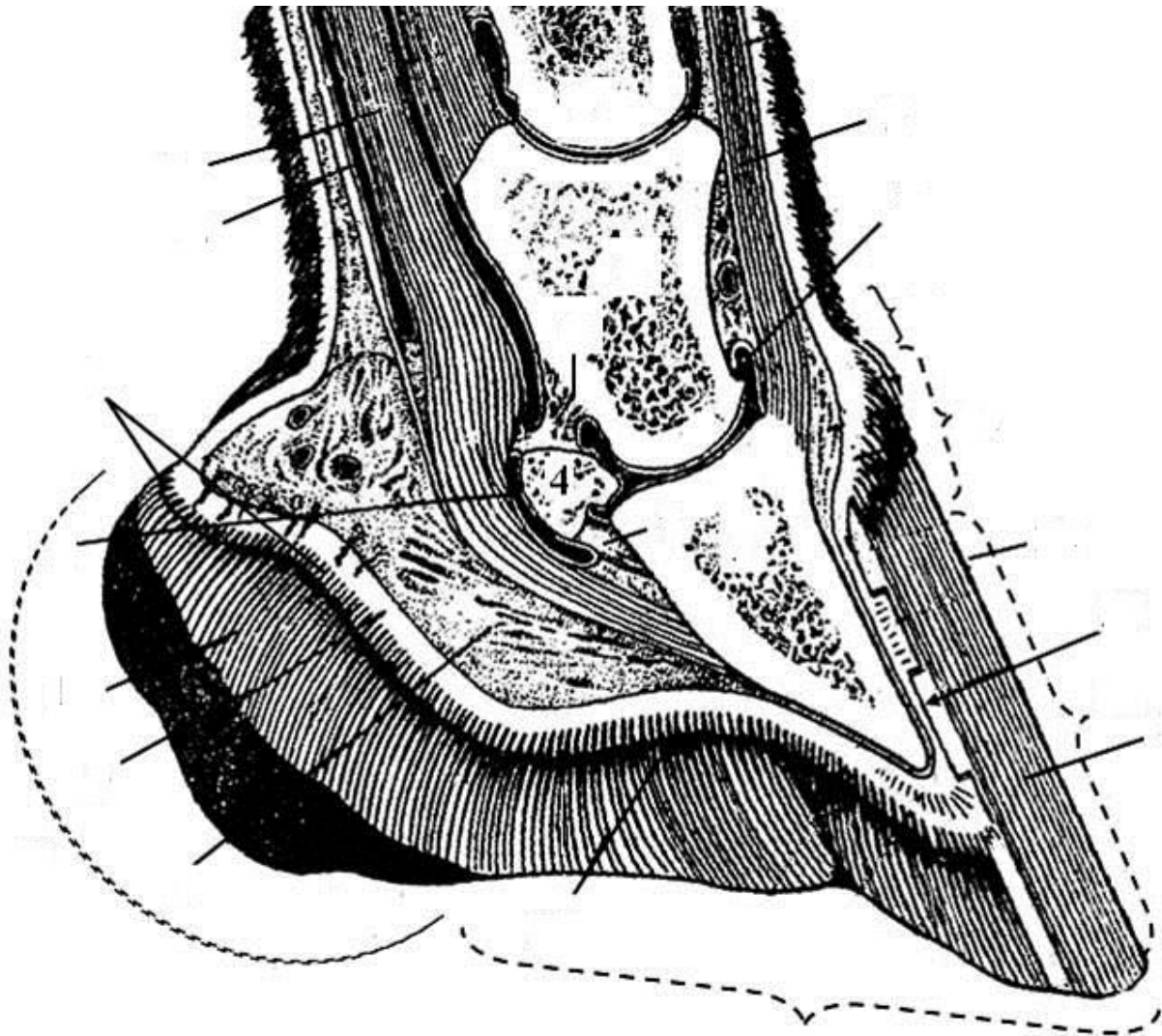
### Digit of horse

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**Task:** add terminology according to designations.



# HOOF



**Sagittal section of a horse's hoof**

I – *limbus*, II – *corona*, III – *paries*, IV – *solea*, V – *furca*, s. *cuneus*

1. os compedale (phalanx proximalis, phalanx primum – ph. I)
2. os coronale (phalanx media, phalanx secundum – ph. II)
3. os unguare (phalanx distalis, phalanx tertium – ph. III)
4. os naviculare s. os sesamoideum distale
5. articulatio interphalangea distalis [ungulare]
6. lig. sesamoideum coronale
7. lig. sesamoideum unguare
8. bursa podotrochlearis
9. tendo m. flexor digitorum profundus
10. tendo m. extensor digitorum communis (longus)

**Task:** write the numbers in the picture.

# VISCERAL SYSTEMS SPLANCHNOLOGY

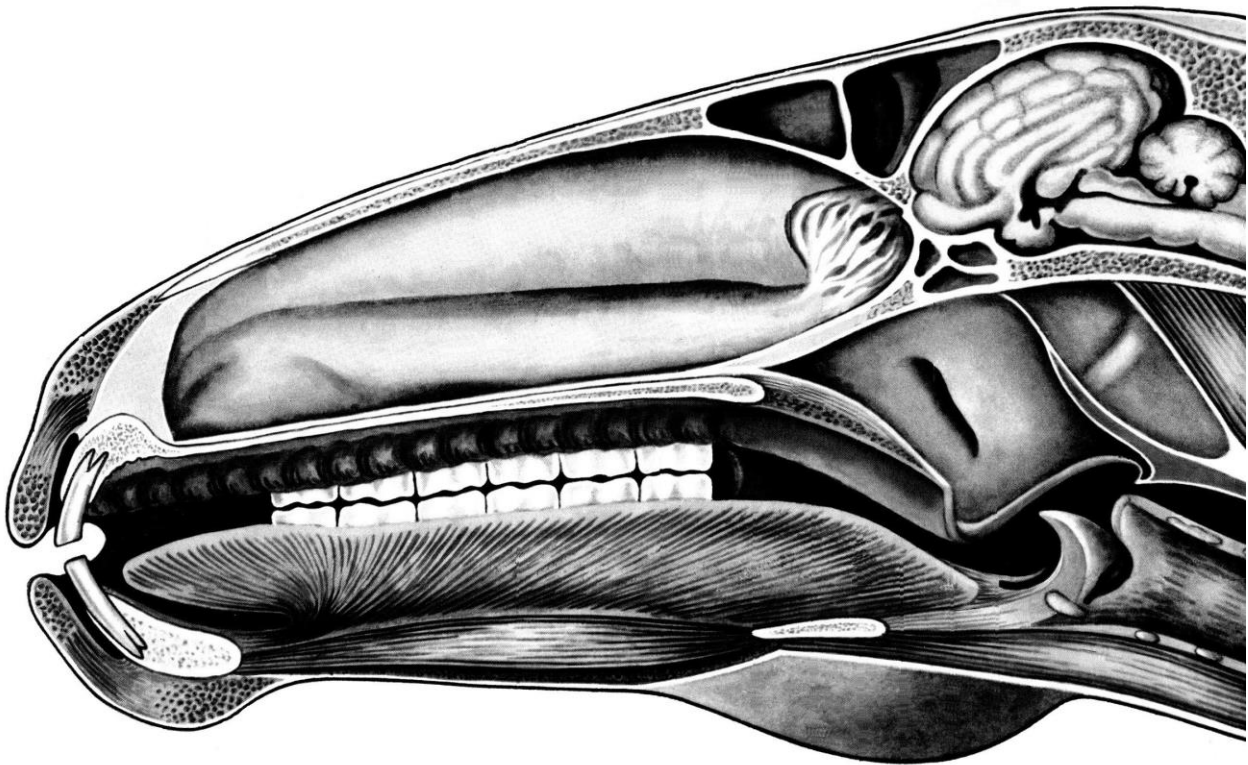
## DIGESTIVE APPARATUS –

.....

### Anatomical composition of organ of the digestive apparatus

<i>Nº</i>	The name of the organ	
	English terminology	International terminology
<b>Organs of the headgut</b>		
<b>A</b>	Organs of the oral cavity	
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
<b>B</b>	Pharynx	
<b>Organs of the foregut</b>		
1		
2		
<b>Organs of the midgut</b>		
Small intestine		
1		
2		
3		
Extramural digestive gland		
1		
2		
<b>Organs of the hindgut</b>		
Large intestine		
1		
2		
3		

**Task:** write anatomical composition of the organ of digestive apparatus using English and international terminology.



**Organs of oral cavity.  
Sagittal section of the horse's head**

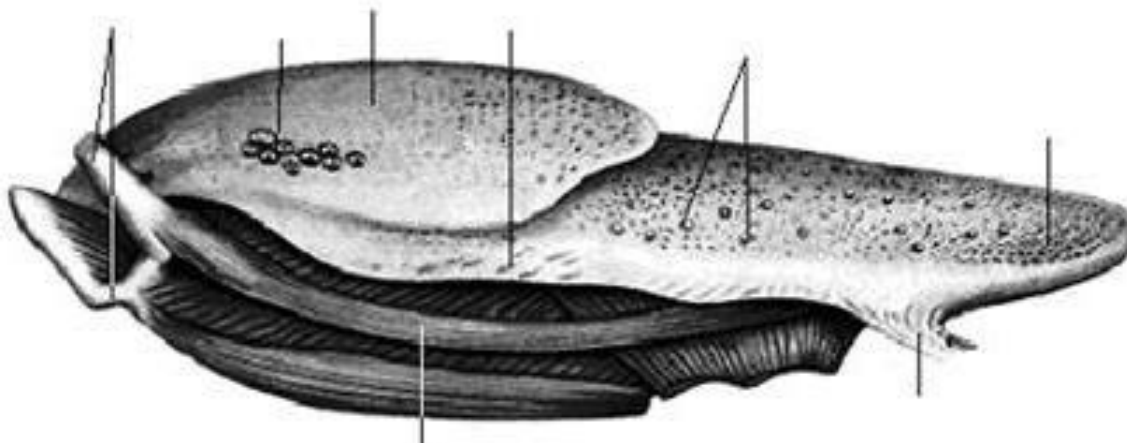
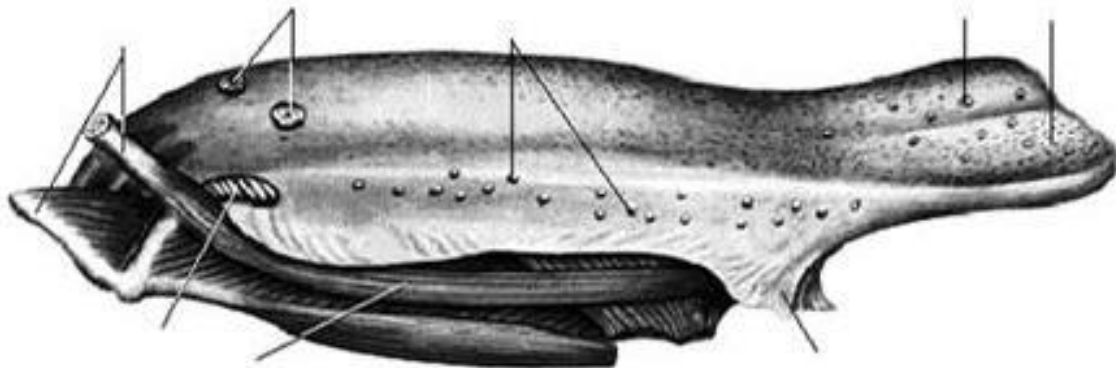
- 1 – lips \_\_\_\_\_
- 2 – hard palate \_\_\_\_\_
- 3 – soft palate \_\_\_\_\_
- 4 – teeth \_\_\_\_\_
- 5 – tongue \_\_\_\_\_
- 6 – pharynx \_\_\_\_\_
- 7 – pharyngeal opening of auditory tube \_\_\_\_\_
- 8 – nasal cavity \_\_\_\_\_
- 9 – choanae \_\_\_\_\_
- 10 – larynx \_\_\_\_\_
- 11 – trachea \_\_\_\_\_
- 12 – oral vestibule \_\_\_\_\_
- 13 – oral cavity proper \_\_\_\_\_

**Task:** write the numbers in the picture and add Latin terminology.

## Dental formulae

<i>Animal species</i>	<i>Dental formulae</i>	$\Sigma$
Cattle	I --- C --- P --- M --- =	
Horse	I --- C --- P --- M --- =	
Dog	I --- C --- P --- M --- =	

**Task:** write the Dental formulae for each animal species.



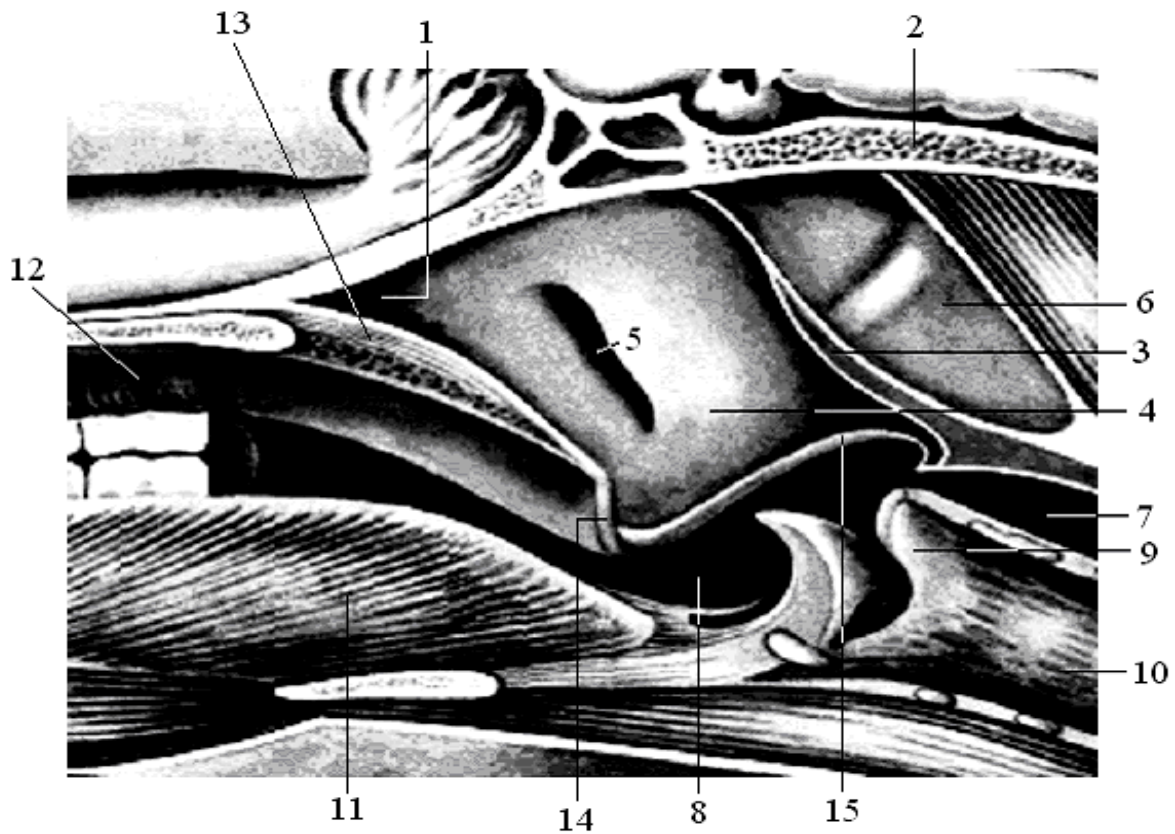
### Tongue

A – horse, B – cattle

- 1 – vallate papillae,
- 2 – foliate papillae,
- 3 – fungiform papillae,
- 4 – conical papillae,
- 5 – filiform papillae,

- 6 – hyoid bone,
- 7 – muscle of the tongue,
- 8 – frenulum,
- 9 – torus.

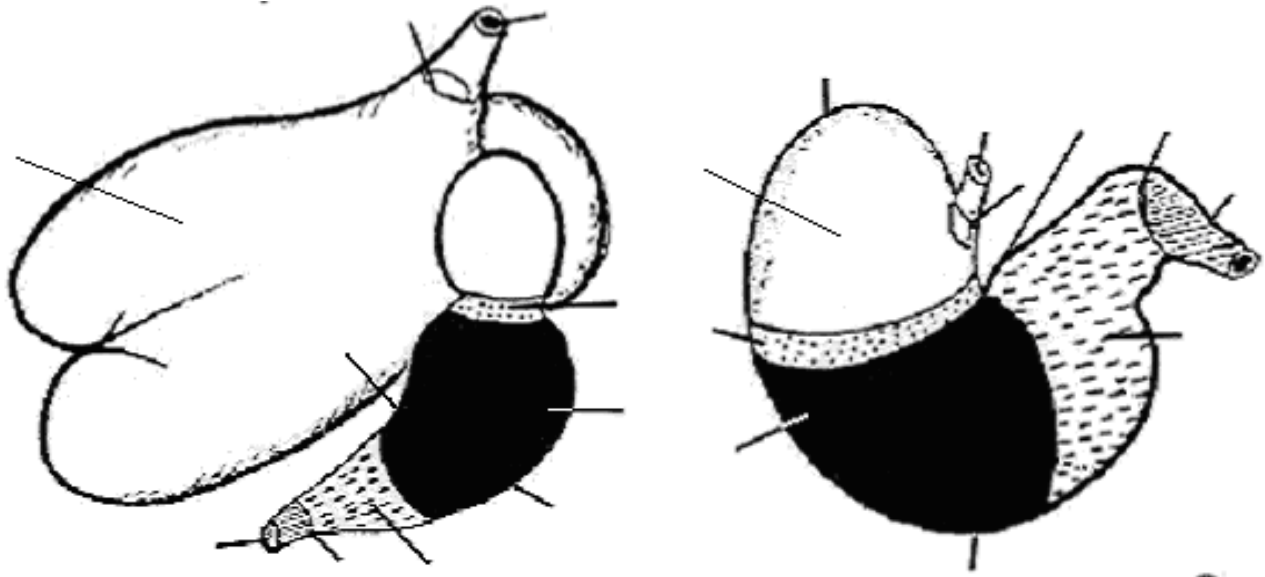
**Task:** number picture according to terminology.



**Saggital section of the pharynx**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_

**Task:** write the terms according to numbers.



**Scheme of stomach**  
 A – horse, B – cattle

1

2

3

4

5

6

7

8

9

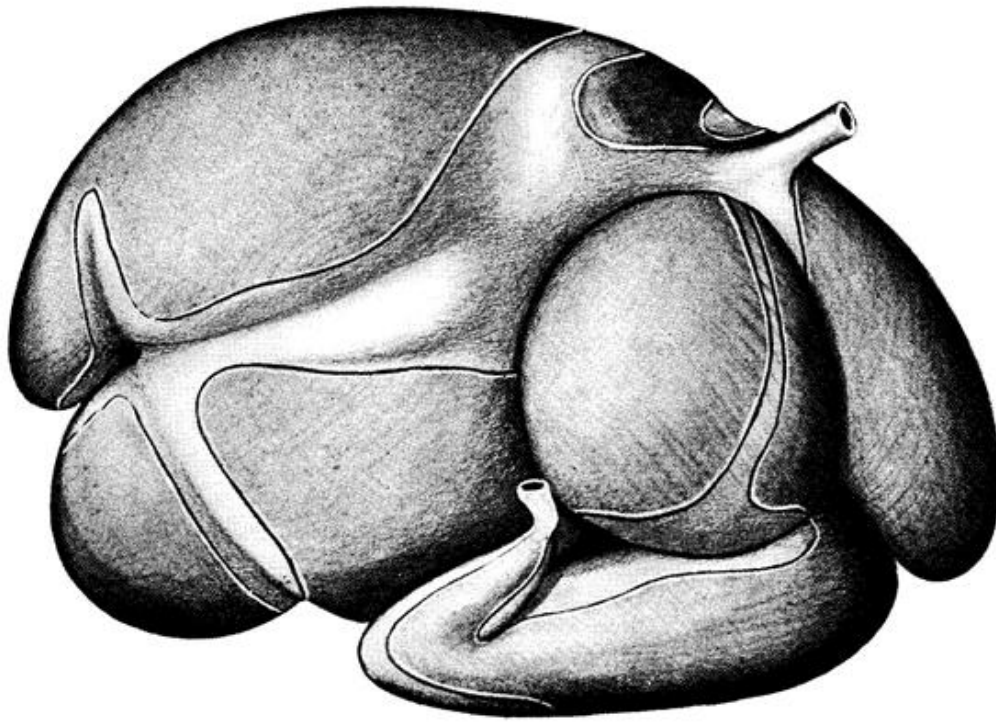
10

11

12

**Task:** number picture and write terminology.

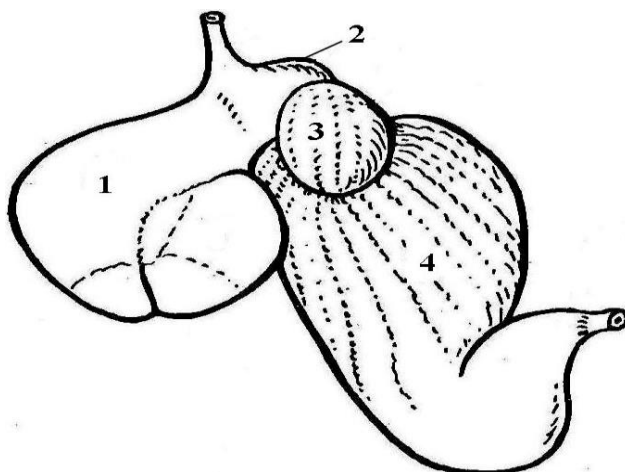




**Stomach of cattle**  
(right aspect)

- |                               |                              |
|-------------------------------|------------------------------|
| 1 – esophagus                 | 8 – caudoventral blind sac   |
| 2 – right longitudinal groove | 9 – dorsal coronary groove   |
| 3 – dorsal ruminal sac        | 10 – ventral coronary groove |
| 4 – ventral ruminal sac       | 11 – reticulum               |
| 5 – atrium of rumen           | 12 – omasum                  |
| 6 – caudal groove             | 13 – abomasum                |
| 7 – caudodorsal blind sac     |                              |

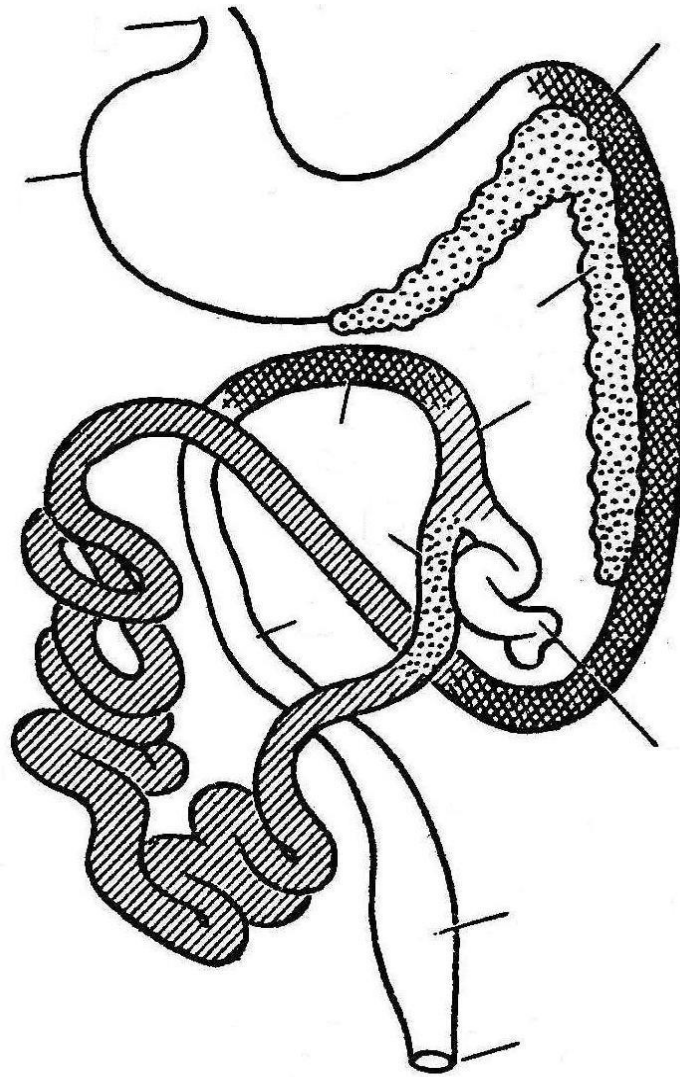
**Task:** number picture according to terminology.



**Scheme of the stomach  
of newborn calf**

- 1 – \_\_\_\_\_  
 2 – \_\_\_\_\_  
 3 – \_\_\_\_\_  
 4 – \_\_\_\_\_

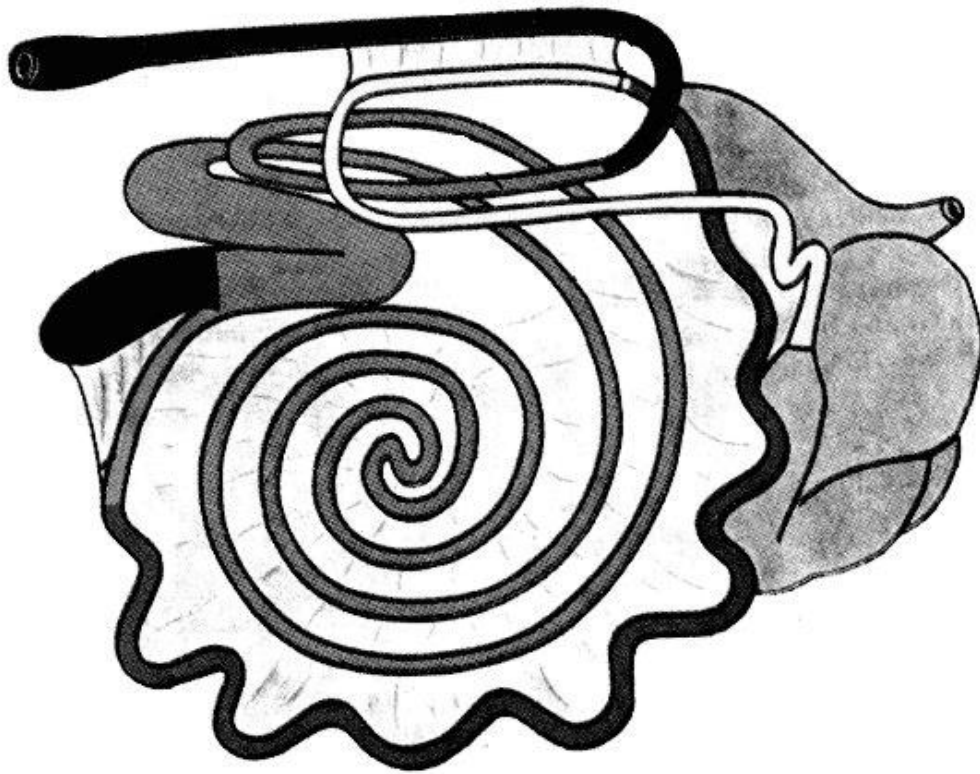
**Task:** add terminology according to number of picture.



**Scheme of dog's intestine**

- 1 - .....
- 2 - .....
- 3 - .....
- 4 - .....
- 5 - .....
- 6 - .....
- 7 - .....
- 8 - .....
- 9 - .....
- 10 - .....

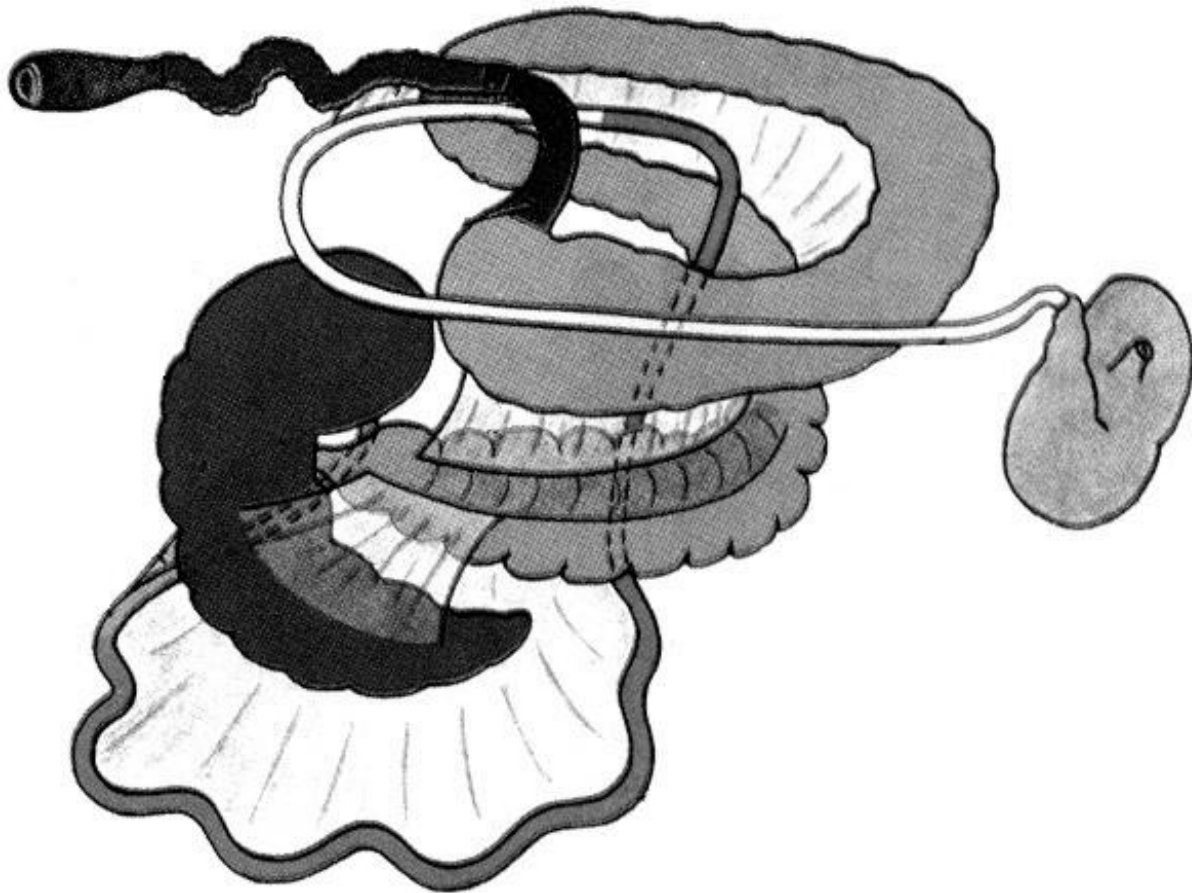
**Task:** number picture and add terminology.



### Scheme of cattle's intestine

- 1 - stomach,
- 2 - duodenum,
- 3 - jejunum,
- 4 - ileum,
- 5 - caecum,
- 6 - colon,
  - 6.1 - proximal loop,
  - 6.2 - centripetal coils,
  - 6.3 - central flexure,
  - 6.4 - centrifugal coils,
  - 6.5 - distal loop,
  - 6.6 - transverse colon,
  - 6.7 – descending colon,
- 7 - rectum,
- 8 - mesentery,
- 9 - duodenocolic ligament,
- 10 - cecoiliac ligament.

**Task:** number picture according to terminology.



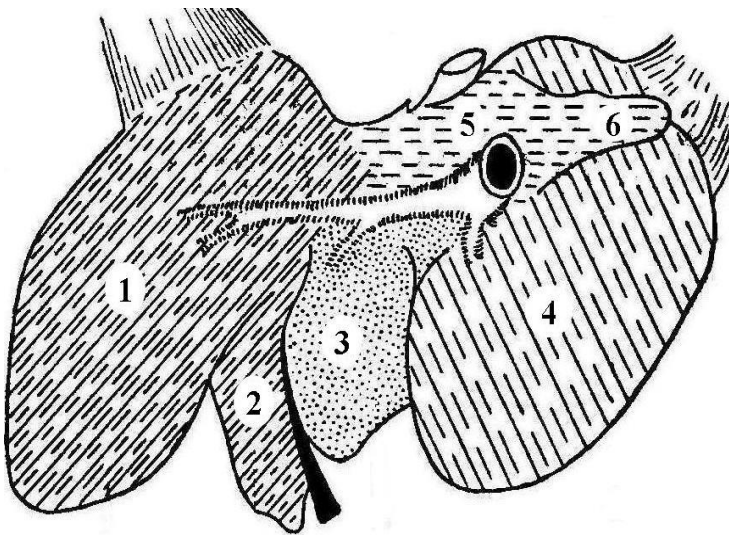
### Scheme of horse's intestine

1 - stomach, 2 - duodenum, 3 - jejunum, 4 - ileum, 5 - cecum, 6 - large colon:

- 6.1 - right ventral colon,
- 6.2 - ventral diaphragmatic flexure,
- 6.3 - left ventral colon,
- 6.4 - pelvic flexure,
- 6.5 - left dorsal colon,
- 6.6 - dorsal diaphragmatic flexure,
- 6.7 - right dorsal part [dilation of colon],

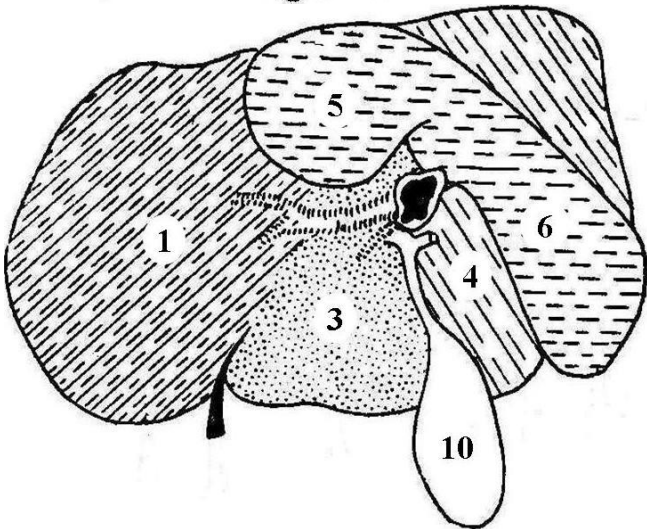
7 - small colon [colon tenue, descending colon], 8 - rectum, 9 - mesentery,  
10 - intercolic ligament, 12 - cecocolic ligament.

**Task:** number picture according to terminology.



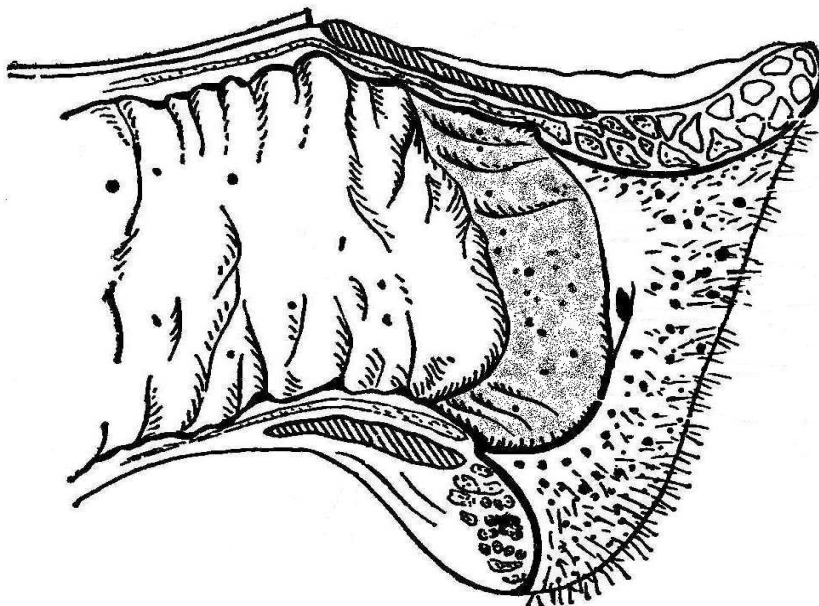
**Liver**

A – horse, B – cattle



- 1 – \_\_\_\_\_
- 2 – \_\_\_\_\_
- 3 – \_\_\_\_\_
- 4 – \_\_\_\_\_
- 5 – \_\_\_\_\_
- 6 – \_\_\_\_\_
- 10 – \_\_\_\_\_

**Task:** add terminology according to designations.



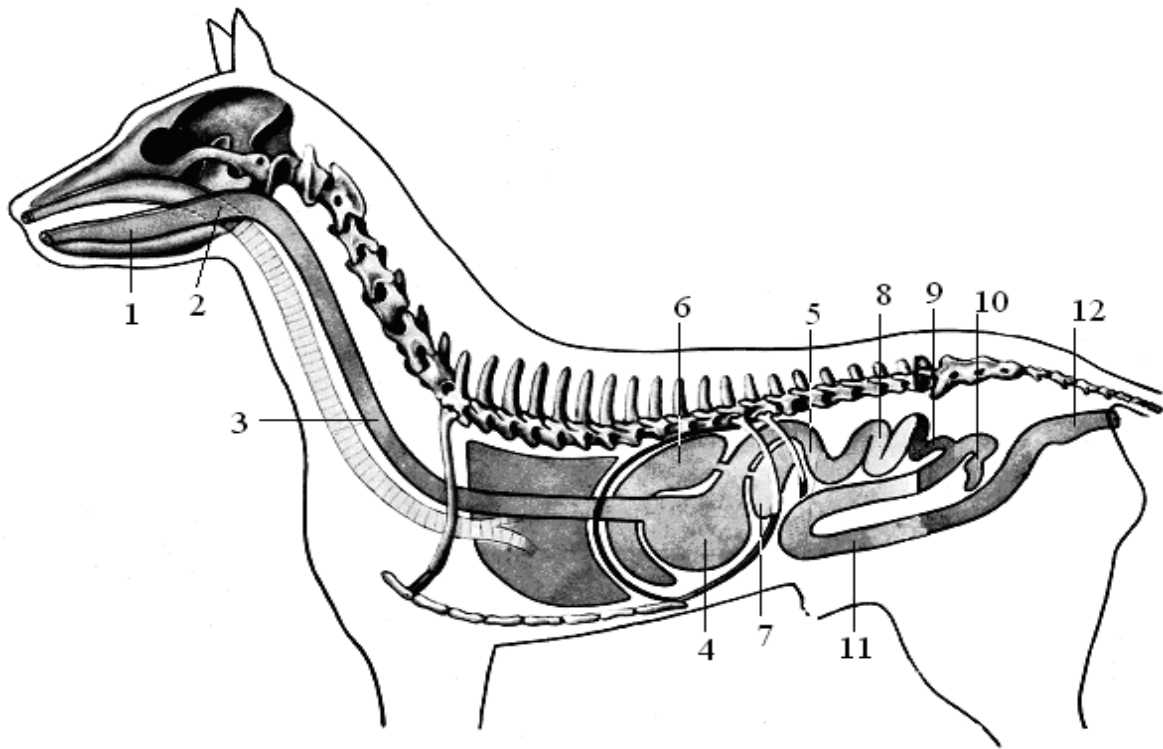
**Longitudinal section of anal canal of a dog**

- 1 – mucosa of rectum,
- 2 – anorectal line
- 3 – intermedial zone
- 4 – anocutaneous line
- 5 – cutaneous zone
- 6 – anal glands
- 7 – paranal sinus

*Sphincters of anus:*

- 8 – internal
- 9 – external

**Task:** number picture according to terminology.



**Digestive system of the dog**

1

2

3

4

5

6

7

8

9

10

11

12

**Task:** write the terms according to numbers.

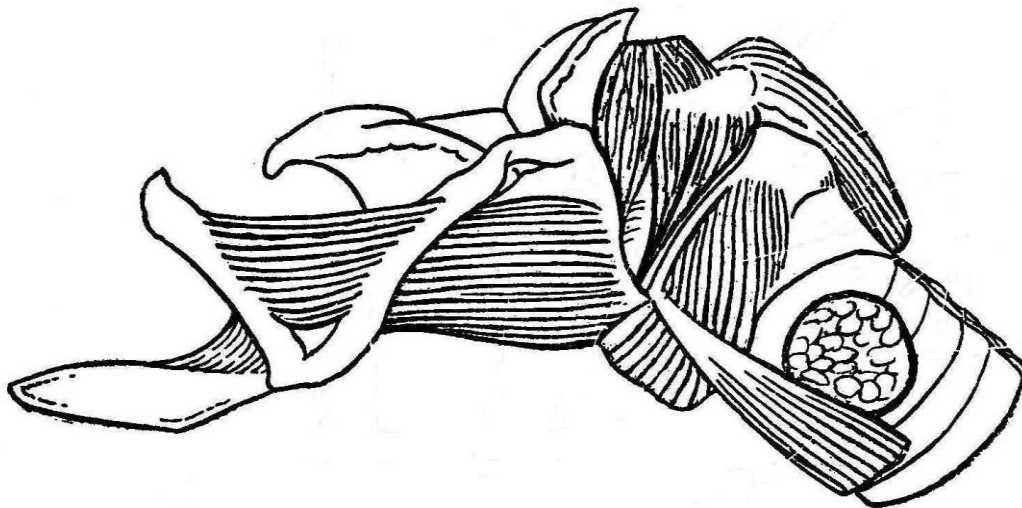
## RESPIRATORY APPARATUS -

.....

### Anatomical composition of organ of the respiratory apparatus

№	Name of the organ	
	English terminology	International terminology
1		
2		
3		
4		
5		
6		

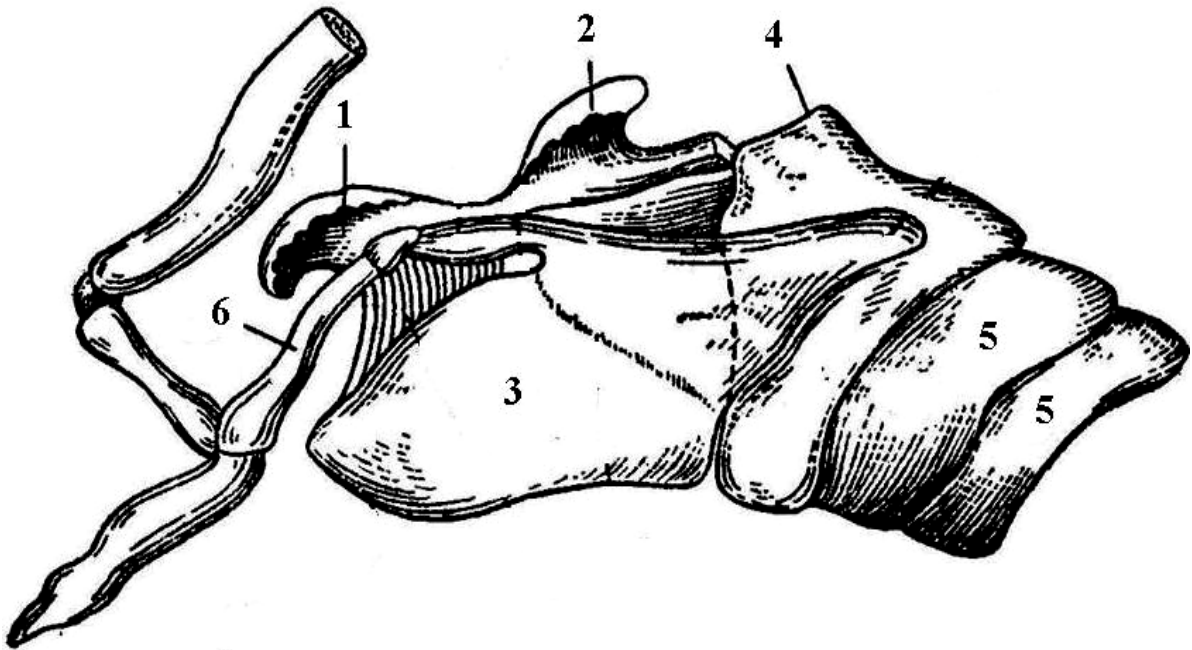
**Task:** write anatomical composition of the organ of respiratory apparatus using English and international terminology.



### Muscles of larynx

1 – ventricularis, 2 – m. arytenoideus transversus, 3 – m. vocalis, 4 – m. cricoarytaenoideus lateralis, 5 – m. cricoarytaenoideus dorsalis, 6 – m. cricothyreoideus, 7 – thyroid gland, m. sternothyreoideus, 9 – m. hyothyreoideus.

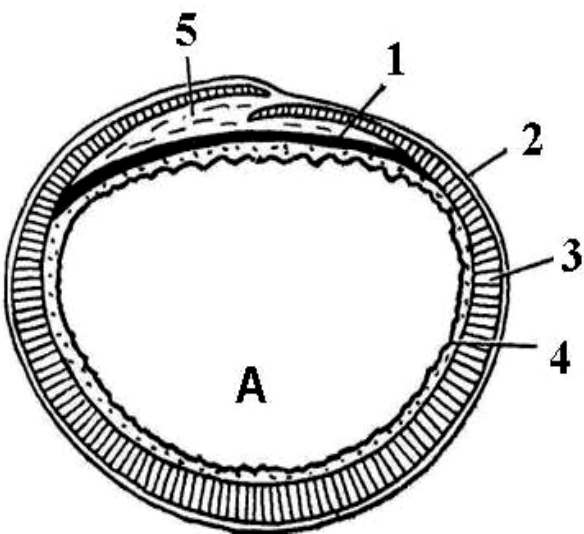
**Task:** Write the numbers in the picture according to terms.



**Cartilage of larynx of horse.**  
Left aspect.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

**Task:** write the terms according to numbers.

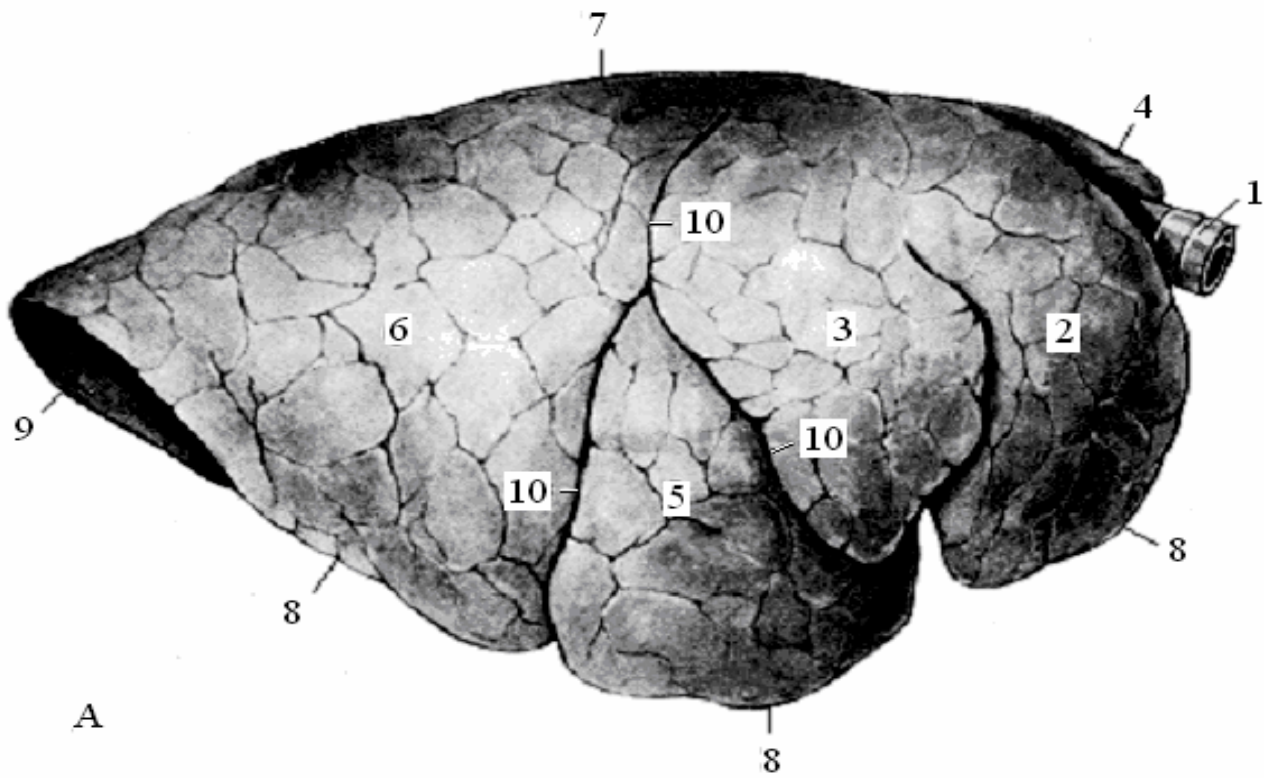


1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

**Transverse section of the horse's trachea**

**Task:** write the terms according to numbers.





**Lung. Right aspect.**

*(animal)*

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

**Task:** write the terms according to numbers.

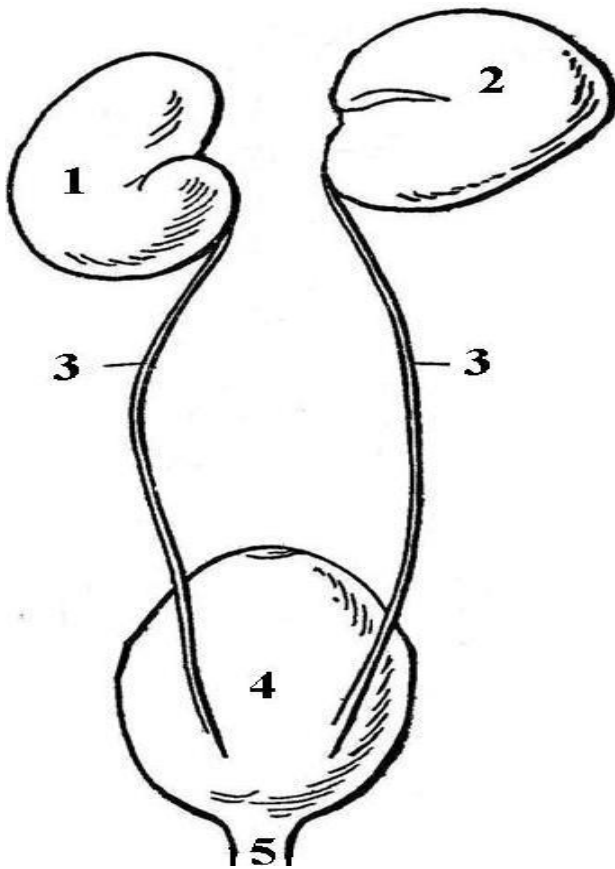
## URINARY APPARATUS -

.....

### Anatomical composition of organs of the urinary apparatus

№	Name of the organ	
	English terminology	International terminology
1		
2		
3		
4		
5.1		
5.2		

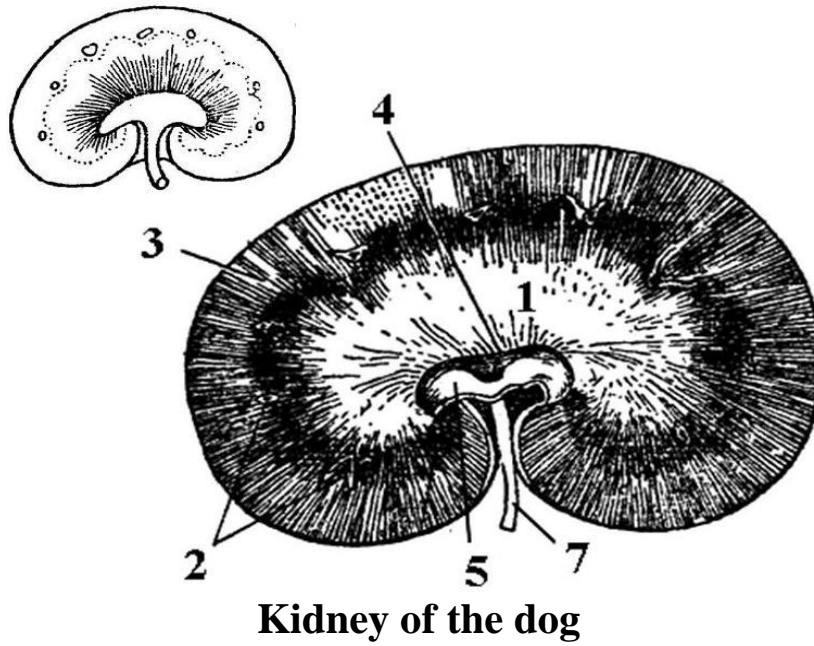
**Task:** Write anatomical composition of the organs of urinary apparatus using English and international terminology.



**Scheme of organs of the urinary apparatus**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**Task:** Write the terms according to numbers.



1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_

**Task:** Write the terms according to numbers.

## FEMALE GENITAL ORGANS -

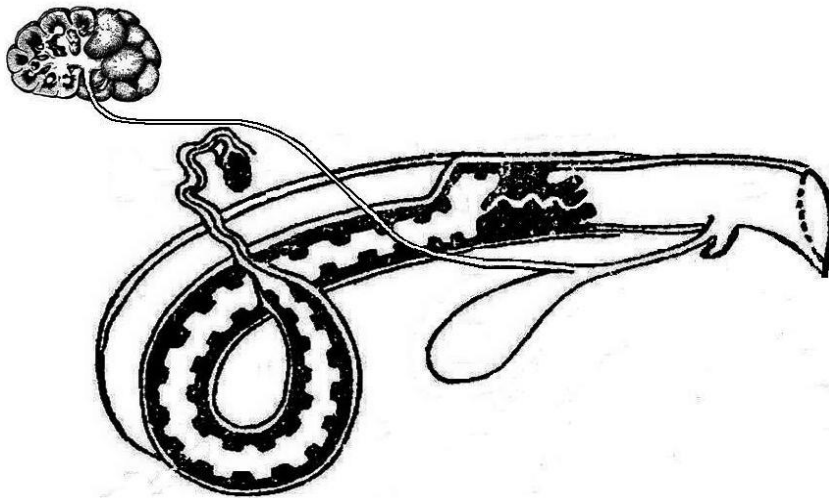
.....

### Anatomical composition of the female genital organs

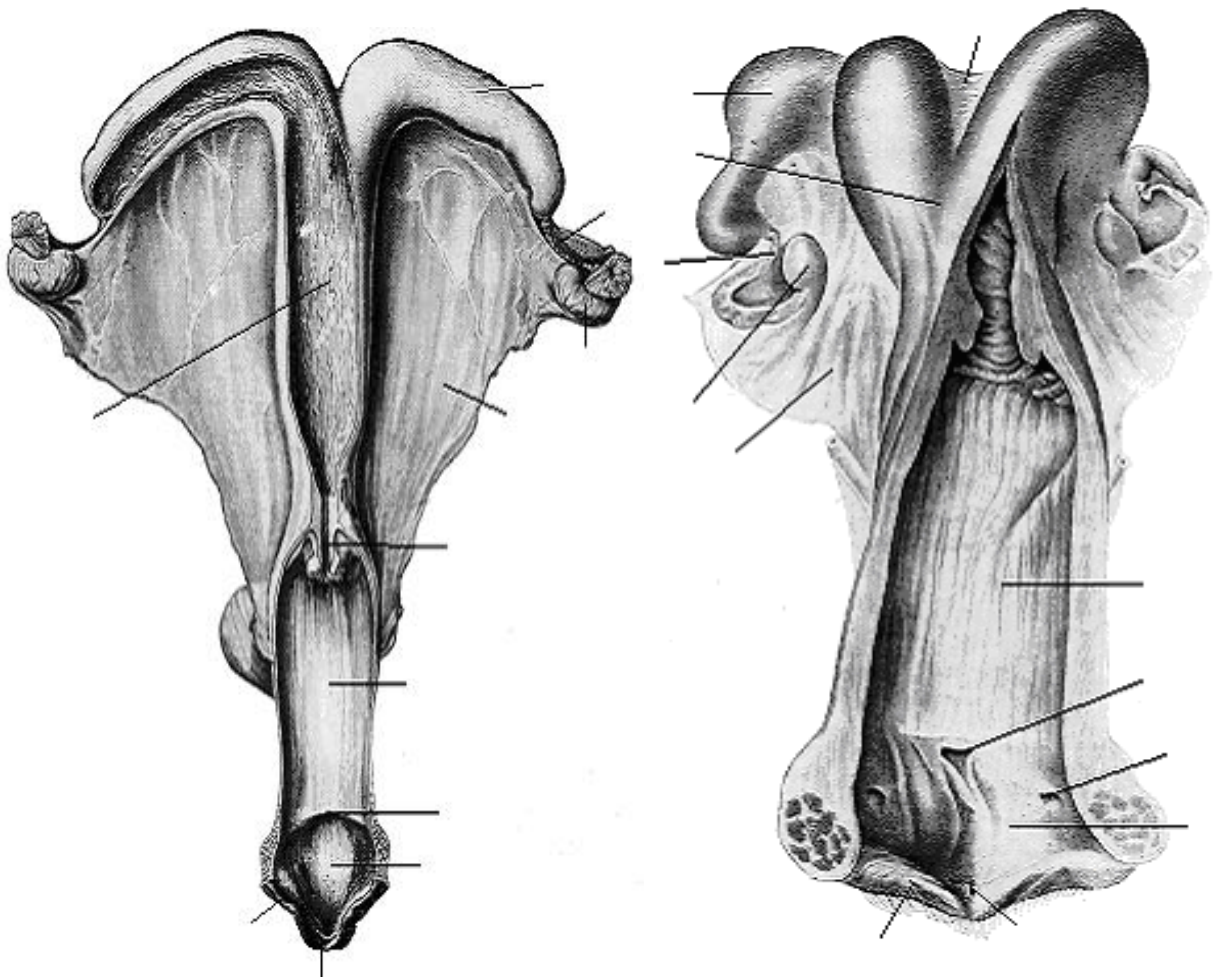
<i>Nº</i>	Name of the organ	
	English terminology	International terminology
1		
2		
3		
4		
5		
6.		

**Task:** Write anatomical composition of the female genital organs using English and international terminology.

## Urogenital apparatus of cow



- 1 – kidney, 2 – ureter  
 3 – bladder, 4 – urethra  
 5 – vestibule of vagina,  
 6 – suburethral, diverticulum, 7 – ovary,  
 8 – uterine tube,  
 9 – uterus, 10 – vagina

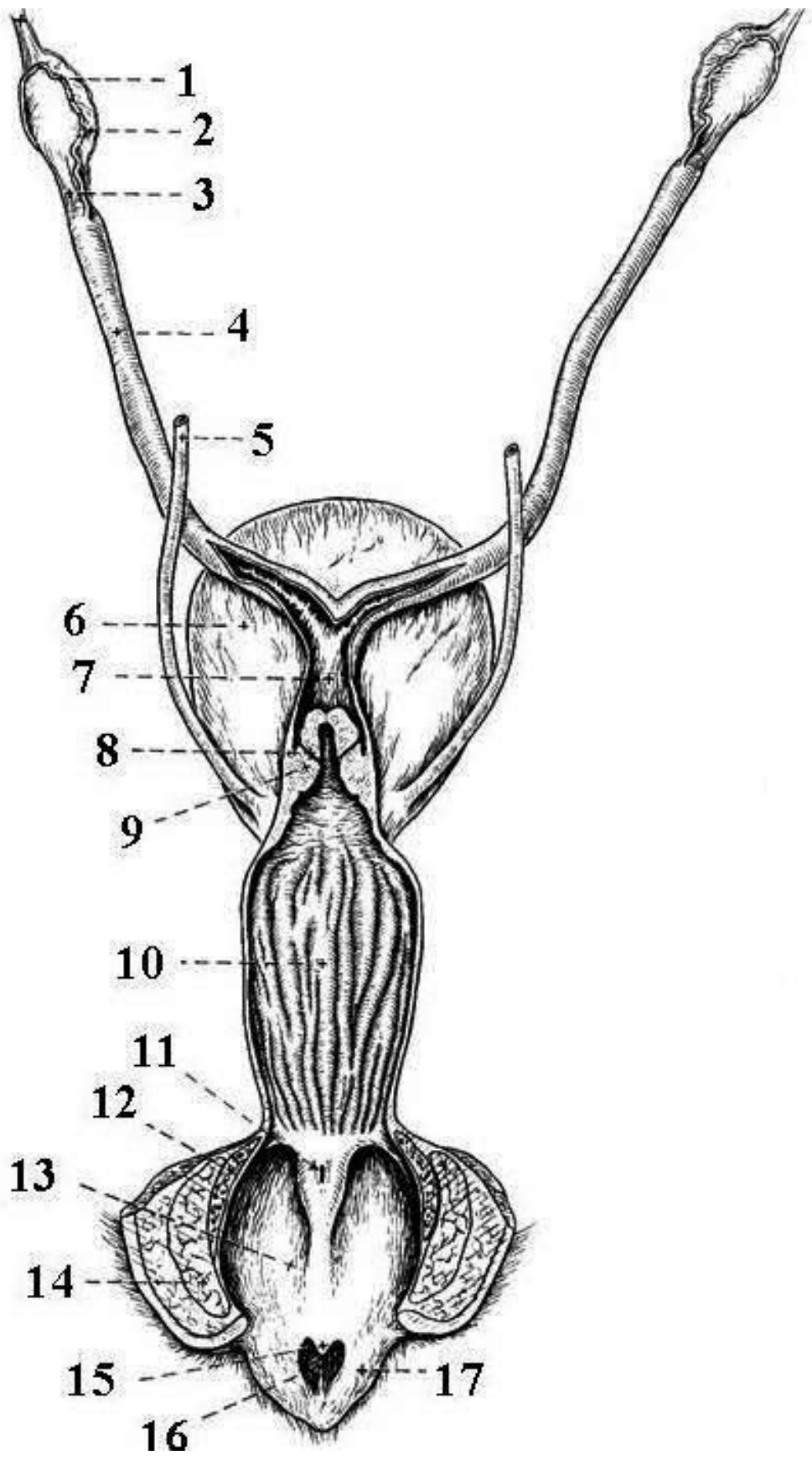


## Female genital organ

A – \_\_\_\_\_ B – \_\_\_\_\_

- 1 – ovary, 2 – uterine tube, 3 – horn of uterus, 4 – body of uterus, 5 – uterine cervix,  
 6 – vagina, 7 – external orifice of urethra, 8 – vestibule of vagina, 9 – vulva,  
 10 – clitoris, 11 – broad ligament of uterus, 12 – intercornual ligament.

**Task:** Number the pictures according to terms.



**Dorsal aspect of female genitalia of dog**

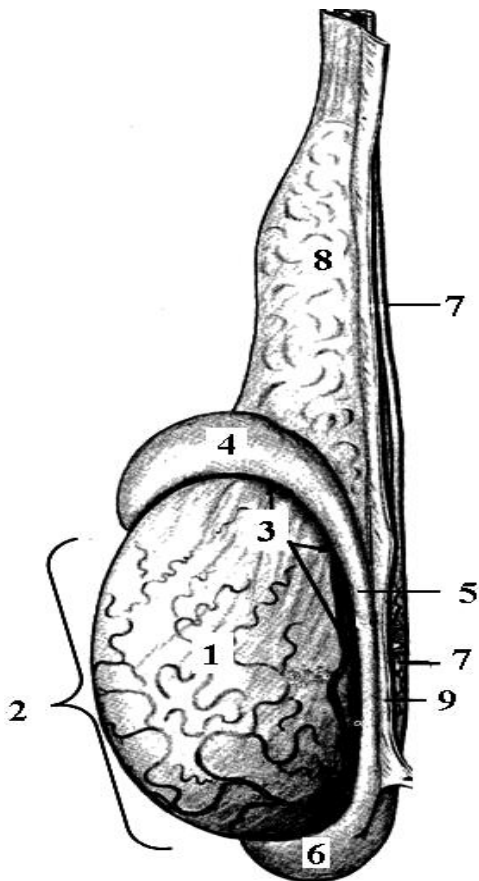
1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_
16. \_\_\_\_\_
17. \_\_\_\_\_

**Task:** Write the terms of each organ according to numbers of the picture.

## MALE GENITAL ORGANS -

### Anatomical composition of organ of the male genitalia

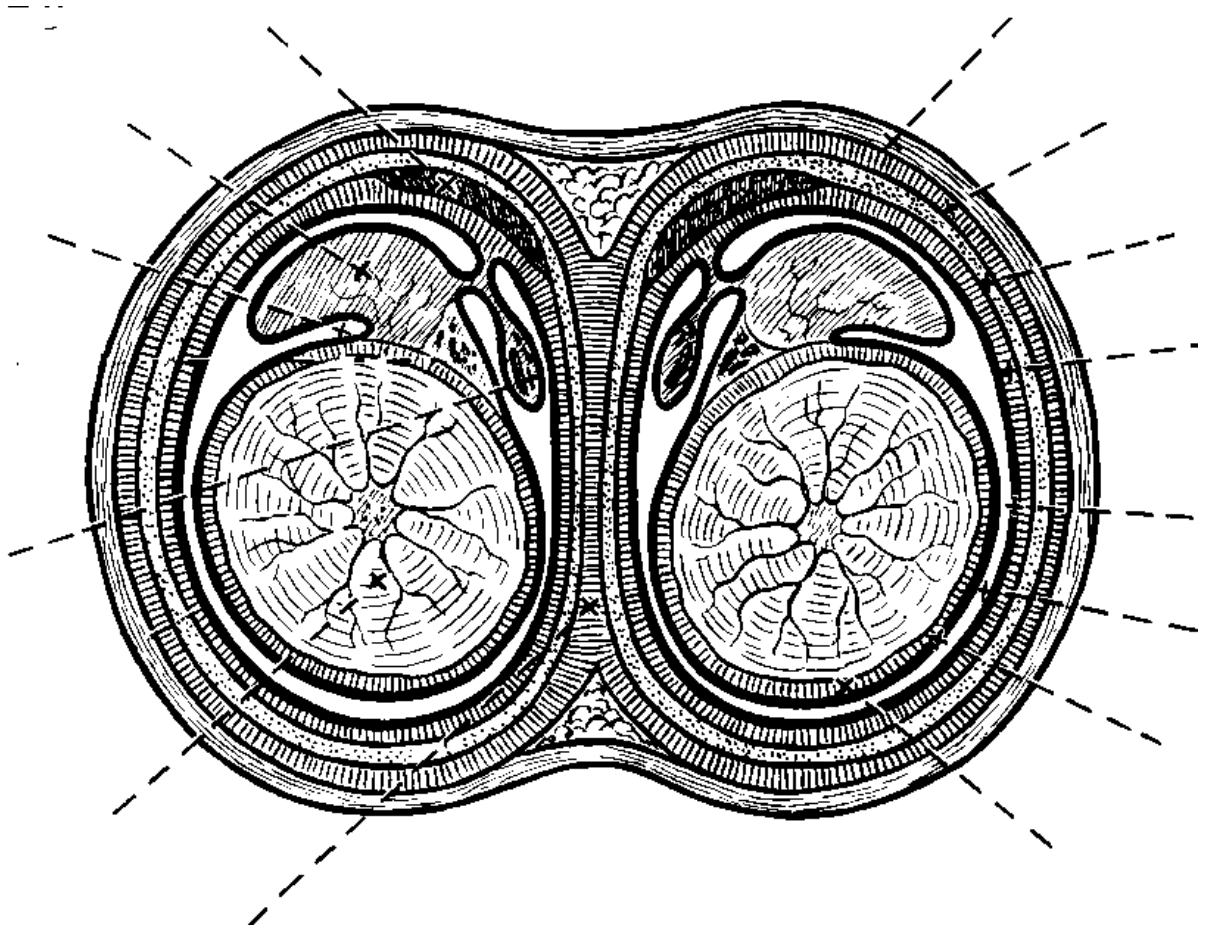
№	Name of the organ	
	English terminology	International terminology
1		
2		
3		
4		
5		
6	<b>Accessory genital glands</b>	
a)		
b)		
c)		
7		
8		
9		



**Testis, epididymis, ductus deferens  
[vasdeferens], and spermatic cord of bull  
left aspect**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_

**Task:** Write the terms according to numbers.

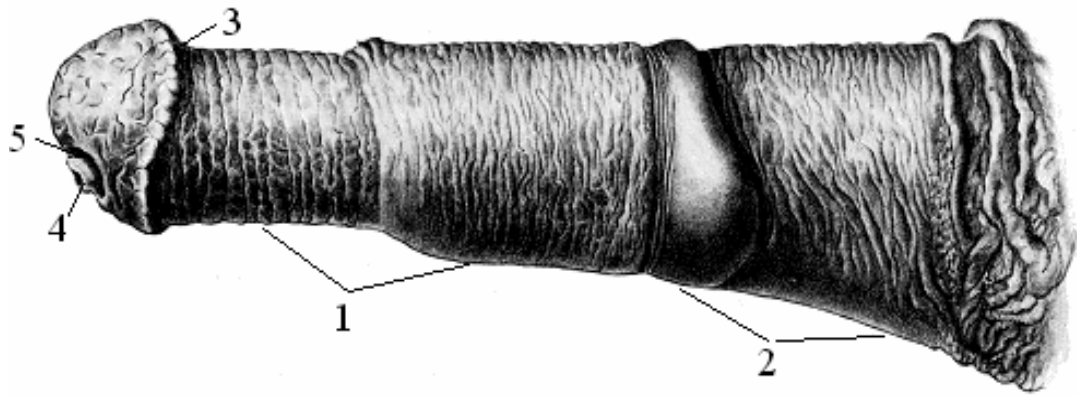


**Transverse section of scrotum and organs  
which are located there**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_
11. \_\_\_\_\_
12. \_\_\_\_\_
13. \_\_\_\_\_
14. \_\_\_\_\_

**Task:** Write the numbers in the picture and the terms using the textbook.

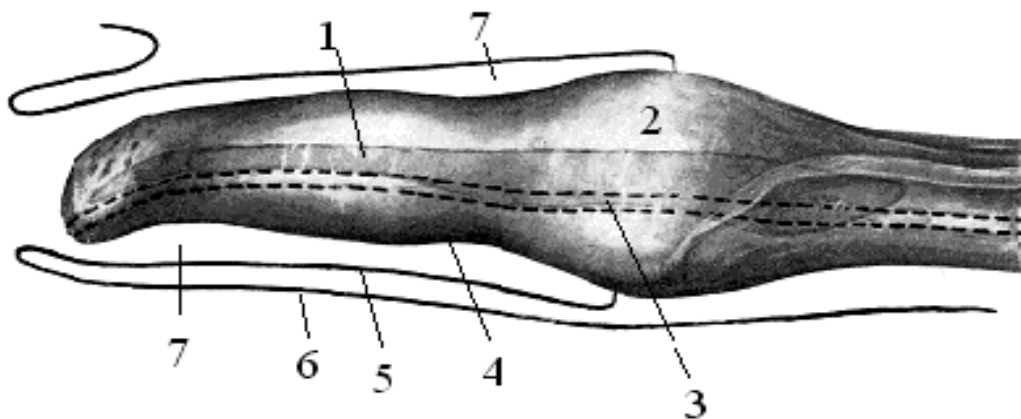




**Glans penis and prepuce of stallion**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

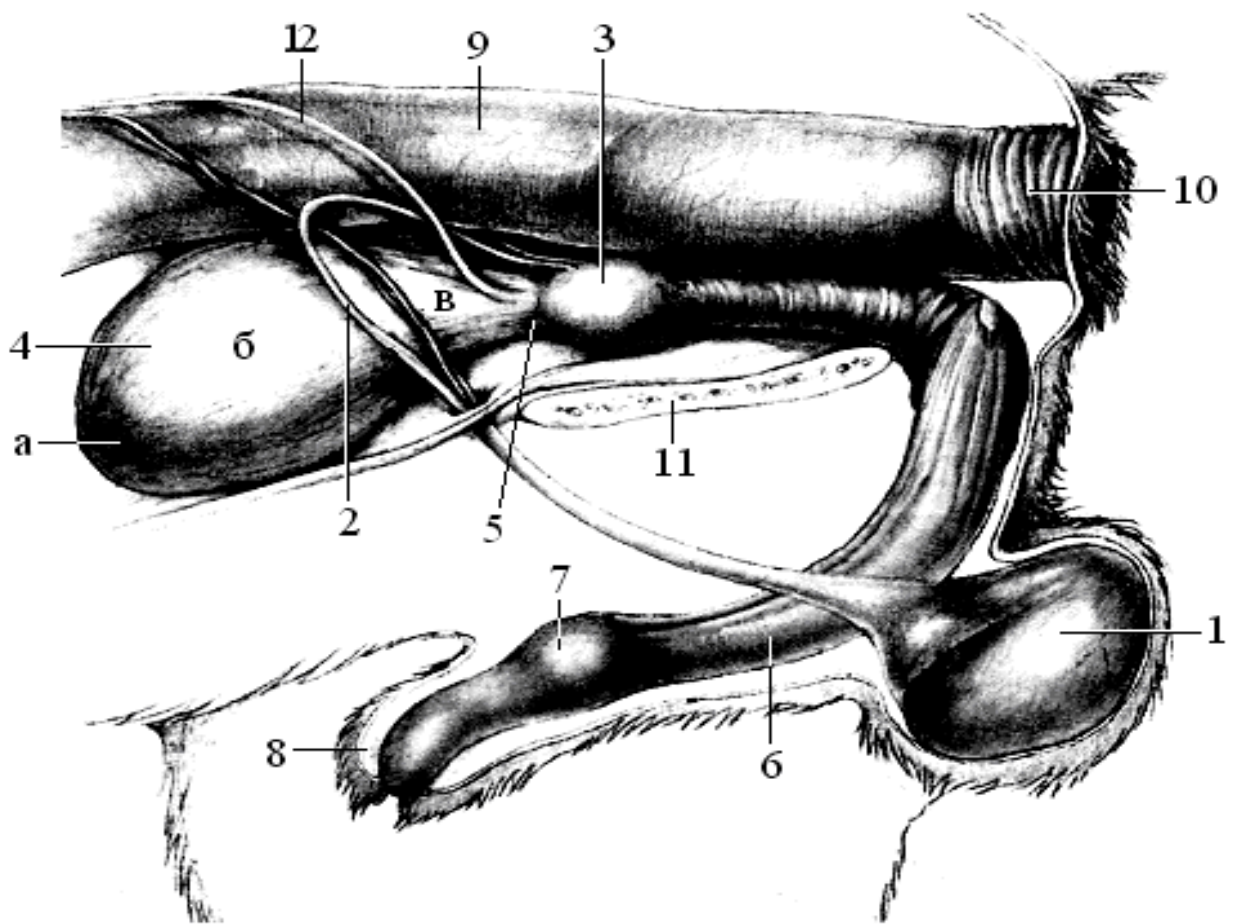
**Task:** Write the terms according to numbers.



**Glans penis and prepuce of dog's male**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_

**Task:** Write the terms according to numbers.



**The urogenital apparatus of a dog's male**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

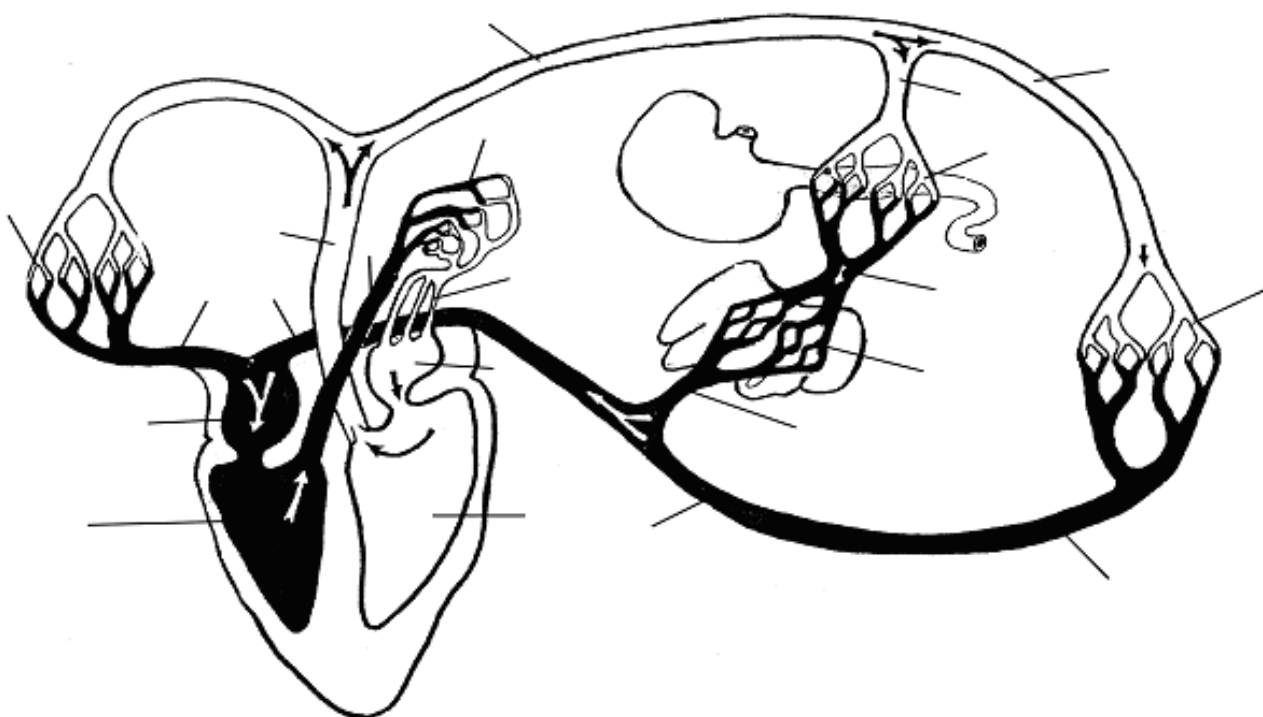
**Task:** Write the terms of each organ according to numbers.

# INTEGRAL SYSTEMS ANGIOLOGY. CIRCULATORY SYSTEM

## Anatomical composition

№	Name of the organ	
	English terminology	International terminology
1		
2		
3		
4		
5		

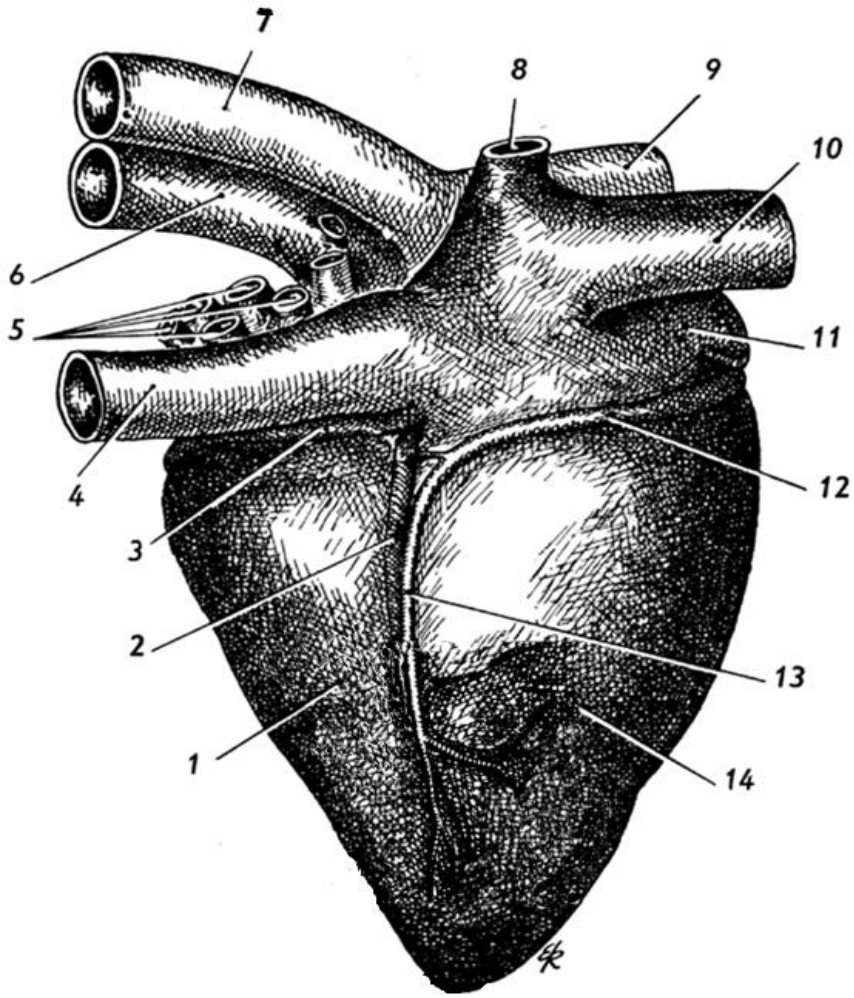
**Task:** Fill in table using English and international terminology.



### Diagram of the mammalian circulation

1 - left atrium, 2 - left ventricle, 3 – aorta, 4 – arteries, 5 – capillary bed, 6 – veins, 7 - right atrium, 8 - right ventricle, 9 - pulmonary trunk, 10 - pulmonary veins, 11 - hepatic veins, 12 - cranial vena cava, 13 - caudal vena cava.

**Task:** Number the picture according to terms.



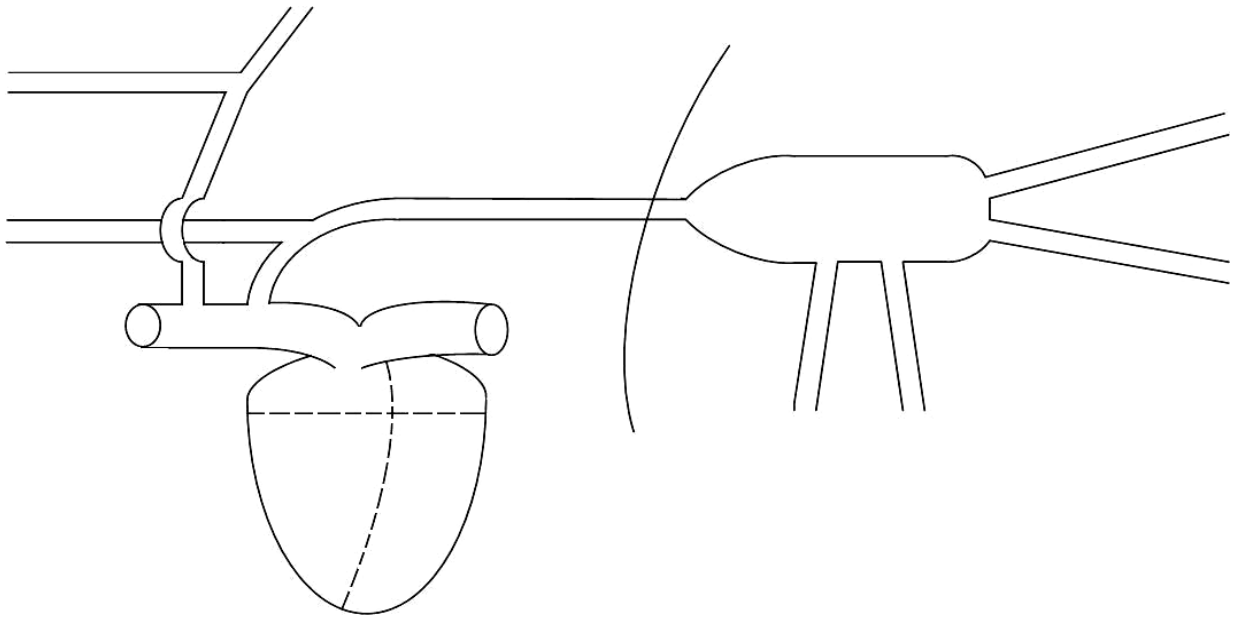
**Heart of horse (right aspect)**

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_
- 6. \_\_\_\_\_
- 7. \_\_\_\_\_
- 8. \_\_\_\_\_
- 9. \_\_\_\_\_
- 10. \_\_\_\_\_
- 11. \_\_\_\_\_
- 12. \_\_\_\_\_
- 13. \_\_\_\_\_
- 14. \_\_\_\_\_

**Task:** Write the terms according to numbers.







### Scheme of lymphatic collecting vessels

1 – cranial vena cava, 2 – thoracic duct, 3 – cisterna chyli, 4 – lumbar trunks, 5 – intestinal trunk, 6 – celiac trunk, 7 – left tracheal trunk, 8 – right lymphatic duct, 9 – right tracheal trunk.

**Task:** Number the picture according to terms.

### *Individual tasks with lymphatic system*

#### Drainage directions (lymph outflow) from the

\_\_\_\_\_

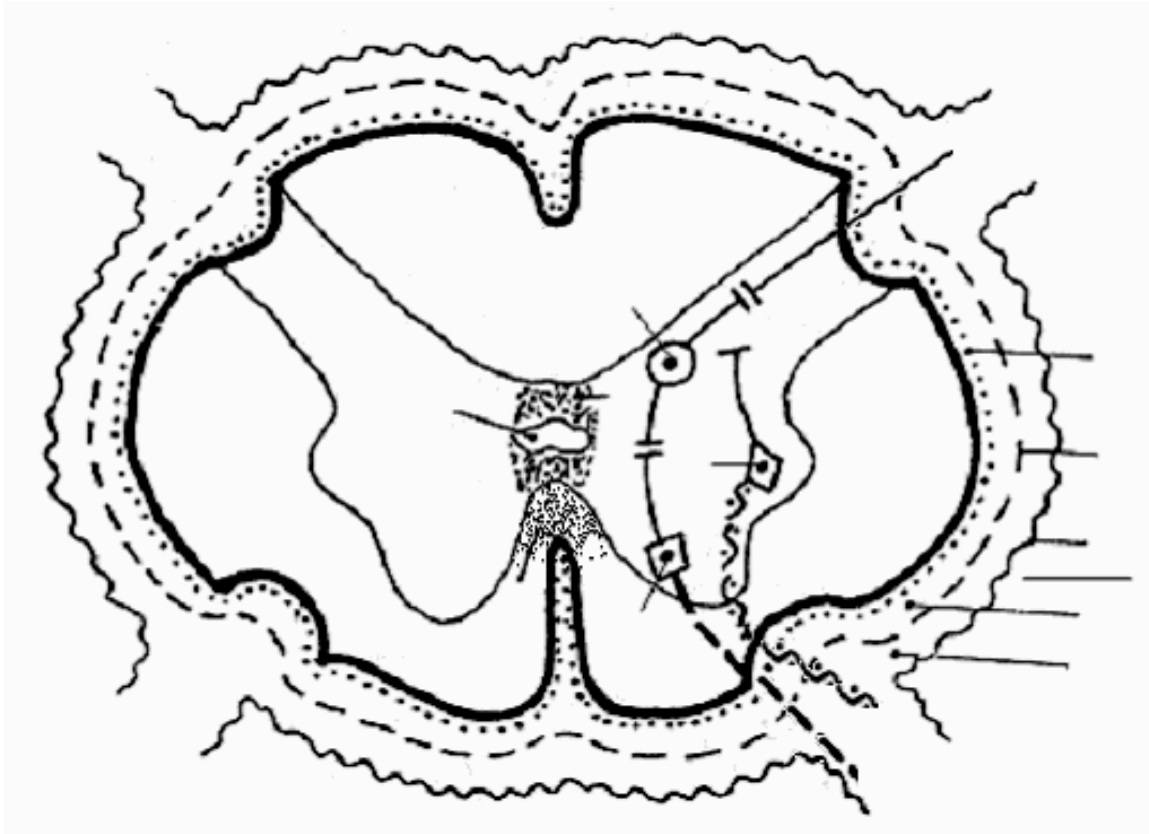
1	
2	
3	
4	
5	
6	
7	
8	

# NERVOUS SYSTEM

## Anatomical composition

№	Name of the organ	
	English terminology	International terminology
1		
2		
3		
4		
5		
6		

**Task:** Fill in table using English and international terminology.

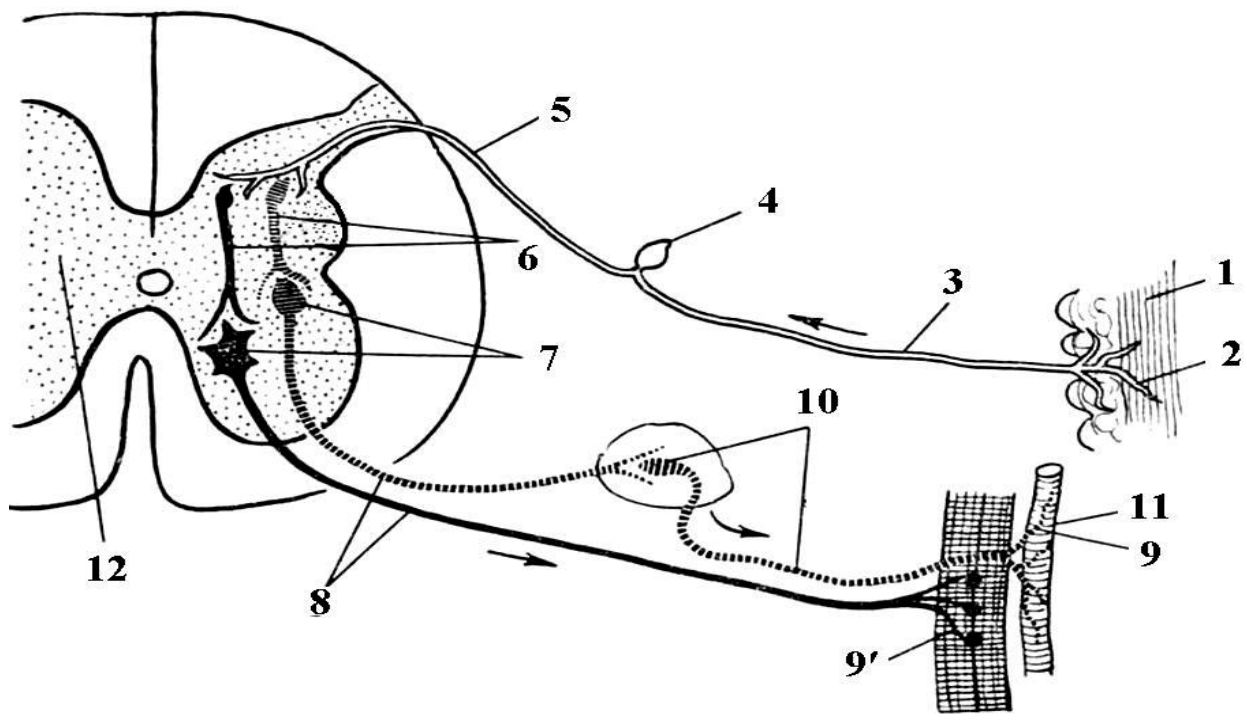


### The spinal cord, its membranes and spaces

1 - central canal, 2 - grey matter: a - dorsal horn, b - lateral horn, c - ventral horn  
 3 - grey commissure, 4 - white matter: d - dorsal funiculus, e - lateral funiculus,  
 f - ventral funiculus; 5 - white commissure, 6 – spinal pia mater, 7 - spinal arachnoid,  
 8 – spinal dura mater, 9 - epidural cave, 10 - subdural cave, 11 - subarachnoid cave,  
 12 - central autonomic nerve cell, 13 - motor somatic nerve cell, 14 - associative  
 nerve cell.

**Task:** Number the picture according to terms.

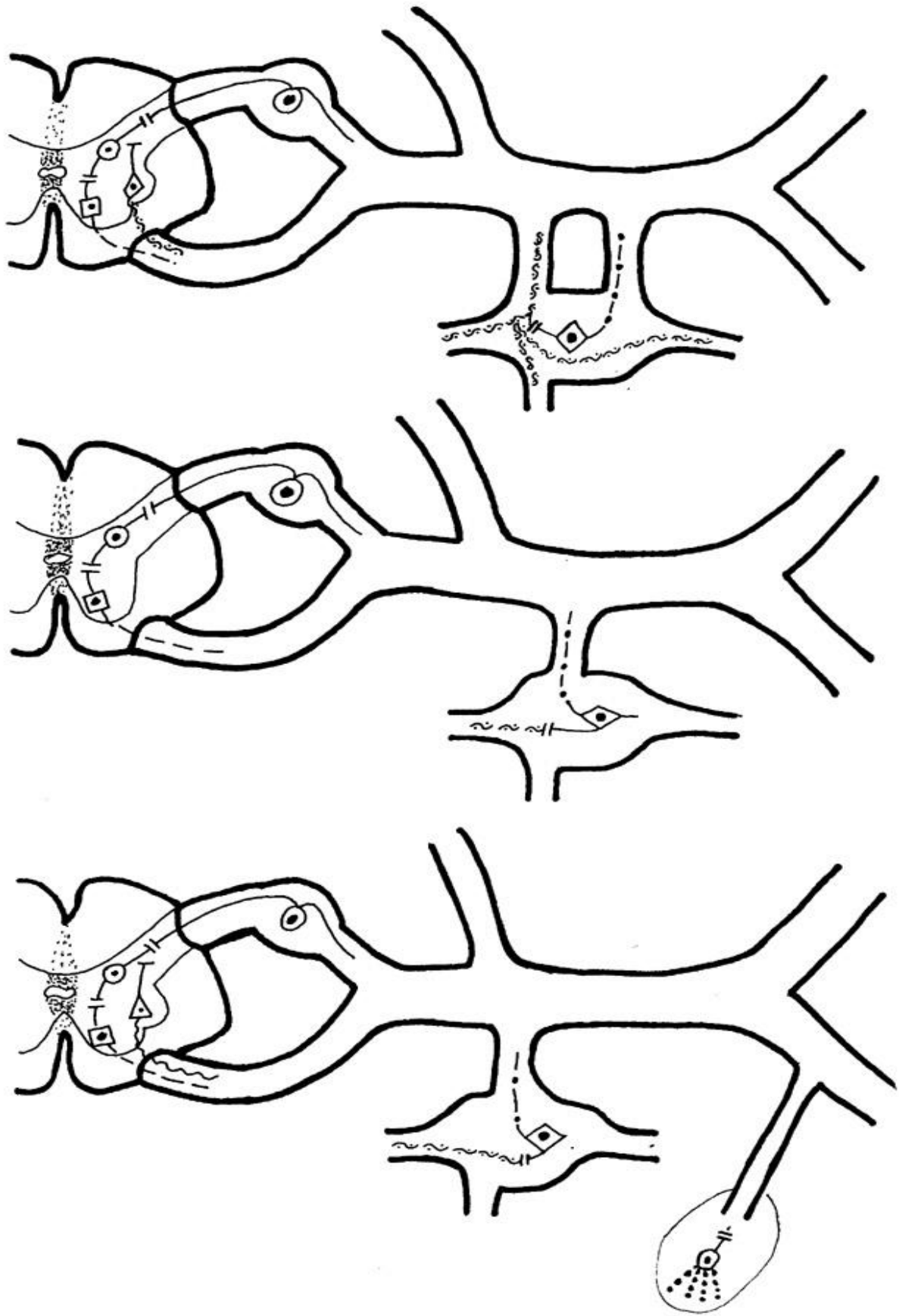




Scheme of a reflex arc

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

**Task:** Write the terms according to numbering.



**Task:** Fill in scheme of spinal nerves. Complete the drawing with processes of nerve cells using the textbook and sign each nerve (cervical, thoracic, lumbar or sacral).

The *brachial plexus* (plexus brachialis) is formed by

---

---

---

---

**Task:** finish the definition.

### Nerves of brachial plexus

№	Terminology of the nerve
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

**Task:** Fill in table using the textbook.

The *lumbar plexus* ( \_\_\_\_\_ ) is formed by

---

---

---

**Task:** finish the definition.

### Nerves of lumbar plexus

№	Terminology of the nerve
1	
2	
3	
4	
5	
6	

**Task:** Fill in table using the textbook.

The *sacral plexus* ( \_\_\_\_\_ ) is formed by

---

---

---

**Task:** finish the definition.

### Nerves of sacral plexus

№	Terminology of the nerve
1	
2	
3	
4	
5	
6	

**Task:** Fill in table using the textbook.

## Somatic Innervation of the Body Region

**Task:** write all the nerves that innervate each of these regions of body.

### Innervation of the costal wall

<b>№</b>	<i>Name of the nerve</i>
1	
2	
3	
4	
5	
6	

### Innervation of the abdominal wall and mammary glands

<b>№</b>	<i>Name of the nerve</i>
1	
2	
3	
4	
5	
6	

### Innervation of the scrotum

<b>№</b>	<i>Name of the nerve</i>
1	
2	
3	

## Somatic Innervation of the Limb Region

**Task:** write all the nerves that innervate each of these regions of limbs.

### **I n n e r v a t i o n   o f   t h e   s h o u l d e r   g i r d l e**

<b>№</b>	<i>Name of the nerve</i>
1	
2	
3	
4	
5	
6	

### **I n n e r v a t i o n   o f   t h e   f e m u r**

<b>№</b>	<i>Name of the nerve</i>
1	
2	
3	
4	
5	
6	
7	
8	
9	

## Somatic Innervation of the Organs of Head

**Task:** write all the nerves that innervate each of these organs indicating the pairs of cranial nerves.

### I n n e r v a t i o n o f t h e e y e

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	
4	
5	
6	
7	
8	
9	

### I n n e r v a t i o n o f t h e n o s e

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	
4	
5	
6	

### **I n n e r v a t i o n   o f   t h e   e a r**

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	
4	
5	
6	
7	
8	
9	

### **I n n e r v a t i o n   o f   t h e   l i p s**

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	
4	
5	

### **I n n e r v a t i o n   o f   t h e   h o r n**

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	



### **I n n e r v a t i o n   o f   t h e   t e e t h**

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	

### **I n n e r v a t i o n   o f   t h e   t o n g**

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	
4	
5	

### **I n n e r v a t i o n   o f   t h e   p a l a t e :   h a r d   a n d   s o f t**

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	
4	

### **I n n e r v a t i o n   o f   t h e   m .   m a s s e t e r**

<b>№</b>	<b><i>Name of the nerve and innervation zone</i></b>
1	
2	
3	
4	

## Derivatives of brain vesicles

Brain vesicle	Walls of brain vesicle			Cavities
	Ventral	Lateral	Dorsal	
<b>V</b>				
<b>IV</b>				
<b>III</b>				
<b>II</b>				
<b>I</b>				

**Task:** Fill in table using the textbook.

# NOTES



