

FYZIA Intro

	<i>Solution</i>	<i>Explanation</i>
1	D	Each declension has a typical Genitive ending.
2	B, D	In any case form, a noun has to retain its Genitive stem. The case endings are then attached based on which declension it belongs to.
3	corpor	With each noun you should remember its Genitive form and be able to derive stem from it, since you need it to create all other case forms of that noun, e.g. Nom. Pl. of <i>corpus</i> would be <i>corpora</i> (stem "corpor" plus ending "a" for neutrals of the 3 rd declension).
4	B, C	Latin Genitive form usually functions as the English preposition "of". In anatomical nomenclature it is used especially when naming the parts of a structure (sometimes even if in English there is an adjectival phrase), e.g. <i>caput femoris</i> (head of femur), or <i>incisura scapulae</i> (=scapular notch).
5	B	For instance, medulla, ae, f: medulla is the basic Nominative form of the noun, ae is the Genitive ending which tells us it belongs to the 1st declension, f means it is of female gender, which we need to know to attach a proper form of adjective (female, too).
6	A, B, C	The basic form "os" may refer to both "bone" and "mouth" (or opening), however, in all other cases there is a difference in Genitive stem!! os, oris , n = mouth/opening os, ossis , n = bone
7	C, D	In anatomical nomenclature, "neck" is used to denote any constricted part of an organ or structure, " collum " is mostly used for bones or hard structures (<i>collum costae</i> , <i>collum fibulae</i> , BUT! <i>collum vesicae biliaris</i>), " cervix " is rather used with soft tissues (<i>cervix uteri</i> , <i>cervix vesicae</i>).
8	D	
9	C	For instance, the furrows on the surface of brain called sulci cerebrales , or fine depressions of the skin between the ridges called sulci cutis .
10	B, C	For example, <i>processus coronoideus mandibulae</i> (=coronoid process of lower jaw), <i>processus coracoideus scapulae</i> (=coracoid process of shoulder blade), or <i>processus spinosus vertebrae</i> (spinous process of vertebra). A is <i>incisura</i> , D is <i>fissura</i> .
11	C	

FYZIA W2

1	C	If the preposition " sub " is followed by Ablative case form (Ablative always ends in a typical vowel of declension in Singular and in -is/-ibus in Plural), it is equivalent to English "under" with the meaning of a position/location under sth.
2	C, D	There are different types of hernia , most frequently it appears in the abdomen. Some instances of hernia types: <i>hernia inguinalis</i> (in groin), <i>hernia ventralis</i> (in abdomen, usually in the place of an old scar), <i>hernia umbilicalis</i> (in pregnant women and infants), <i>hernia diaphragmatica</i> (stomach protrudes through diaphragm). A is <u>prolapsus</u> , us, m., B is <u>ectopia</u> , ae, f.
3	lamina ae f	There are several types of "lamina" in medical terminology, for all these we use a Latin name in English, too. For instance, the picture (a) shows <i>lamina propria</i> (the connective tissue layer of mucous membrane).

4	A	In English, it is often translated as "suture", however, the Latin term sutura is used for an immovable joint (especially between the bones of the skull). E.g. the structure called <i>linea alba</i> , i.e. the tendinous median line on the anterior abdominal wall running from the xiphoid process to the pubic symphysis, is also called raphe abdominalis . See also the median suture joining the bones of the palate is called raphe palatina . The incomplete fusion of the palatine raphe results in a congenital defect known as cleft palate.
5	B	A is <i>ruptura</i> , C is <i>diabetes</i> , D is <i>atrophia</i> . Mild <i>ascites</i> is hard to notice, but severe <i>ascites</i> leads to abdominal distension. Patients with <i>ascites</i> generally complain about progressive abdominal heaviness and pressure as well as shortness of breath due to mechanical impingement on the diaphragm. In the developed world, the most common cause for <i>ascites</i> is liver cirrhosis. Other causes include cancer, heart failure, tuberculosis, pancreatitis, and blockage of the hepatic vein.
6	A, C	If a noun follows another noun to describe or specify it (typically parts of an anatomical structure, or English "of" phrases), it is expressed by genitive singular or genitive plural. The attribute is then called " <i>non-agreed</i> " because the two nouns do not agree in gender, case, and number as opposed to noun+adjective phrases (" <i>agreed attributes</i> ") which do.
7	C	In anatomical nomenclature " fascia " denotes a sheet or band of fibrous tissue such as lies deep to the skin or invests muscles and various body organs. The picture shows a structure called <i>fascia thoracolumbaris</i> (the fascia of the erector spinae muscle attached to the spinous processes with a superficial layer and to the costal processes with a deep layer, both layers being united laterally).
8	True	As opposed to prepositions <i>ad</i> and <i>per</i> which are always followed by a noun in the Accuative case form (i.e. 4th case). Prepositions <i>in</i> and <i>sub</i> may be followed by both case forms depending on what we mean, either "in/inside/within sth" (+Abl.) or "into sth" (Acc.).
9	lingu abdomin phalang antebrachi	The Genitive stem is what stays if we remove the genitive ending of a noun: lingua - lingu -ae; abdomen - abdomin -is; phalanx - phalang -is; antebrachium - antebrachi -i
10	B	Medulla ossium (= bone marrow) is the soft, organic, spongelike material in the cavities of bones composed of blood vessels and special connective tissue fibers that hold together a composite of fat and blood-producing cells. There are two types of marrow, rubra and flava (=red and yellow). The former produces the blood cells; the latter, which is mainly formed of fatty tissue, normally has no blood-producing function. During infancy and early childhood all bone marrow is red. Diploe is the central layer of spongy bone between the two layers of compact bone, outer and inner plates, or tables, of the flat cranial bones. Periosteum is a specialized connective tissue covering all bones of the body, and possessing bone-forming potentialities. It also serves as a point of attachment for certain muscles whose connective tissues fuse with the fibrous layers of periosteum.
11	False	The definition suits the term " <i>synergista</i> ". However, " antagonista " is a muscle that counteracts the action of another muscle, the agonist. Antagonist and agonist muscles often occur in pairs, called <i>antagonistic pairs</i> . Antagonism is not an intrinsic property of a

particular muscle or muscle group; it is a role that a muscle plays depending on which muscle is currently the agonist. As one muscle contracts, the other relaxes. An example of an antagonistic pair is the biceps and triceps; to contract - the triceps relaxes while the biceps contracts to lift the arm. **Agonist muscles** cause a movement to occur through their own activation. For example, the *triceps brachii* contracts, producing a shortening contraction, during the up phase of a push-up (elbow extension). **Antagonist muscles** are simply the muscles that produce an opposing joint torque to the agonist muscles. This torque can aid in controlling a motion. The opposing torque can slow movement down - especially in the case of a ballistic movement. For example, during a very rapid (ballistic) discrete movement of the elbow, such as throwing a dart, the triceps muscles will be activated very briefly and strongly (in a "burst") to rapidly accelerate the extension movement at the elbow, followed almost immediately by a "burst" of activation to the elbow flexor muscles that decelerates the elbow movement to arrive at a quick stop.

12 bursa ae f

FYZIA W3

1 caput costae In anatomical nomenclature "**caput**" always refers to an expanded or chief extremity of an organ or part, in the picture it is the "head of rib", i.e. Latin *caput* for head followed by a Genitive form of *costa* for rib, thus *caput costae*

2 B "**Incisura**" usually denotes an indentation at the edge of any structure, or any short, narrow, V-shaped deviation in a linear surface. The English term is "*notch*", here it is the scapular notch, but since it is a part of shoulder blade, we use Genitive form of the bone in the Latin phrase, i.e. *incisura scapulae*.

3 False The three case forms of 1st declension nouns mentioned in the question have indeed the same case endings, however, it is **-ae, not -i**.

4 A, D "**Genu**" is neutral, thus, the adjective describing it has to be in the same, neutral, gender. Neutral adjectives have the ending **-um**, therefore *genu dextrum/sinistrum*.

5 A Medical terminology often uses Latin words from non-medical contexts: "**tunica**" is originally a Latin word denoting the basic clothing of Romans, Greeks, and other ancient nations (i.e. tunic). However, in medical terms it is used in a metaphorical sense for "coat" or "covering" of a structure such as *tunica mucosa* (the mucous membrane lining of various tubular structures), *tunica serosa* (the membrane lining the external walls of the body cavities and reflected over the surfaces of protruding organs), or *tunica vasculosa* (a vascular coat, or a layer well supplied with blood vessels).

6 us er
er us Most of the male adjectives end in **-us**, however, there are some male adjectives ending in **-er** like e.g. dexter, sinister, liber, or ruber. Sometimes the -e- is omitted in other case forms, sometimes it stays, you have to remember this (female and neutral forms may be a hint): e.g. *ruber* has female form *rubra*, i.e. -e- is omitted in all other case forms, but *liber* has female form *libera*, i.e. -e- stays in all other case forms. For instance: *medulla ossium rubra*, but *hernia libera*.

7 C There are several Latin words referring to some kind of "hole" or "opening" in anatomical nomenclature. The original meaning of Latin "**ostium**" is "orifice" or "estuary of a river", but in medical terms we use it in

		metaphorical sense for a small orifice, esp. with ducts or tubal structures, e.g. <i>ostium abdominale</i> (the fimbriated end of Fallopian tube), or <i>ostium uteri</i> (the external opening of the cervix of the uterus into the vagina). "Fossa" originally means "a trench", but in medical terminology it is used to denote a hollow or depressed area of a structure, e.g. <i>fossa cerebri</i> (any of the depressions on the floor of the cranial cavity), or <i>fossa digastrica</i> (a depression on the inner surface of the mandible attached to the anterior belly of the digastric muscle). Finally, "foramen" denotes a natural opening or passage, especially one into or through a bone, e.g. <i>foramen nutricium</i> (the external opening for the entrance of blood vessels in a bone), or <i>foramen venae cavae</i> (opening in the central tendon for the inferior vena cava).
8	tuba uterina	The term is composed of the noun "tuba" (=tube) and the adjective derived from "uterus" - uterinus, a, um , because it is a tube leading from the ovary to uterus.
9	A	Answer B (the tendinous median line on the anterior abdominal wall between two straight muscles) refers to <i>linea alba</i> , answer C to <i>tunica serosa</i> , answer D to <i>tunica mucosa</i> . The picture shows <i>plica synovialis</i> (= a fold of synovial membrane that projects into a joint cavity).
10	C	" Medulla ", in general, refers to the inmost part of a structure or organ, e.g. bone marrow (<i>medulla ossium</i>). The structure in the picture is called <i>oblongata</i> due to its shape, the phrase literally means "prolonged medulla".
11	a ae am a	

FYZIA W4

1	C	These three paradigms (nervus, vena, septum) are used to decline adjectives, as well, based on their gender form: male adjectives (ending in <i>-us</i> or <i>-er</i>) follow the nervus paradigm, female adjectives (ending in <i>-a</i>) the vena paradigm, and neutral adjectives (ending in <i>-um</i>) the septum paradigm. Notice the same endings of the paradigms and the adjective gender forms!
2	C	Diabetes is a Greek origin term which <i>follows the Latin paradigm "vena"</i> completely except for its basic form ending in <i>-es</i> . However, its gender is male (!), therefore, the adjective describing it (<i>mellitus</i>) has the male gender form, too, and consequently is declined according to "nervus" paradigm (just like all male form adjectives). Thus, the noun <i>diabetes</i> and the adjective <i>mellitus</i> have different case endings, even though they agree in case, number, and gender. Gangrene is a term used for the decay or death of an organ or tissue caused by a lack of blood supply. It is a complication resulting from infectious or inflammatory processes, injury, or degenerative changes associated with chronic diseases (due to advanced blockages of arteries), such as diabetes mellitus.
3	fractura complicata costae verae primae fractura costae verae primae complicata	A medical record always starts with the diagnose itself, i.e. a disease, a disorder, or an injury (here: fracture). This is followed by region specification (here: first true rib) in Genitive form. Further specifications of the diagnose (via adjectives or prepositional phrases, here: complicated) usually come last but adjectives describing the injury/disease may also stand right after these.

		With anatomical terms described by more than one adjective, we translate backwards from English, with noun being always the first (!) i.e. first true rib = <i>costa vera prima</i> (in Latin anatomical nomenclature the most specific comes the last). <u>All the adjectives describing a noun have to agree with it in gender (here: female), case (here: Genitive), and number (here: singular).</u>
4	True	
5	atlas axis vertebra cervicalis secunda	The uppermost segment of vertebral column, which supports the skull, is called atlas (<i>ntis, m</i>) in anatomical nomenclature. The name is based on Greek mythology, where <i>Atlas</i> was a Titan condemned to hold up the sky for eternity. The second cervical vertebra is named by the term axis (<i>is, f</i>) which also means axis itself, i. e. a line through a center of a body, or about which a structure revolves, e.g. <i>axis optica</i> .
6	C	A is <i>sinus paranasales</i> , B is <i>epistaxis</i> or <i>rhinorrhagia</i> , D is <i>septum intraalveolare</i>
7	D	Tuba auditiva is a part of middle ear which serves to equalize pressure on either side of the tympanic membrane (eardrum). It is named after a 16th century anatomist Bartolomeo Eustachi. In children this tube is wider and shorter than in adults, and thus children are especially prone to <i>otitis media</i> , infection of the middle ear that originates in the pharynx and travels through the tube. When taking off in an airplane, the surrounding air pressure goes from higher (on the ground) to lower (in the sky). The air in the middle ear expands as the plane gains altitude, and pushes its way into the back of the nose and mouth. On the way down, the volume of air in the middle ear shrinks, and a slight vacuum is produced. Active opening of the Eustachian tube is required to equalize the pressure between the middle ear and the surrounding atmosphere as the plane descends. A diver also experiences this change in pressure, but with greater rates of pressure change; active opening of the Eustachian tube is required more frequently as the diver goes deeper into higher pressure.
8	fundus i m	For instance <i>fundus gastricus</i> is the part of the stomach to the left and above the level of the opening between the stomach and esophagus, <i>fundus uteri</i> is the part of the uterus above the orifices of the fallopian tubes, and <i>fundus oculi</i> is the back portion of the interior of the eyeball, visible through the pupil by use of the ophthalmoscope. There is a similar term basis (<i>is, f</i>) which usually denotes a base of a bony or cartilaginous structure, or the part of a pyramidal or conic structure opposite to <i>apex</i> , e.g. <i>basis cranii</i> , <i>basis pulmonis</i> , etc.
9	A	" Nervus vagus " literally means " <i>the wandering nerve</i> ", since it supplies motor parasympathetic fibers to all the organs (except the adrenal glands), from the neck down to the second segment of the transverse colon. Its afferent fibers serve the mucous membrane of the larynx, trachea, bronchi, lungs, arch of the aorta, esophagus, and stomach. Some of the functions affected by this nerve are coughing, sneezing, reflex inhibitions of the heart rate, and the sensation of hunger. Its motor fibers are concerned with swallowing, speech, peristalsis, and secretions from the glands of the stomach and the pancreas and contractions of the trachea, bronchi, and bronchioles.
10	C	The infant is undergoing many adaptations to extrauterine life, and its physiological systems, such as the immune system, are far from fully

		developed. Potential diseases of concern during the neonatal period include e.g. <i>icterus neonatorum</i> (neonatal jaundice), <i>diabetes mellitus neonatorum</i> , <i>hepatitis neonatalis</i> , etc.
11	C, D	Make sure you understand the meaning of all the words in the answers.

FYZIA W6

1	B	
2	vulnera morsa	Noun vulnus, eris, n. follows the corpus paradigm, since it is a neutral of 3rd declension. Therefore stem <i>vulner-</i> + ending <i>-a</i> : vulnera . The neutral adjective form morsum follows <i>septum</i> paradigm, as all adjectives ending in <i>-um</i> (2nd declension), therefore <i>-a</i> . All neutrals regardless of declension end in -a in Nom. and Acc. pl.!!!
3	B, C	Note: <i>perforata</i> x perforatio, <i>uterinus</i> x uterus, <i>palatinum</i> x palatum (adjectives in <i>italics</i>)!
4	A, B, D	Note: <i>gravida</i> x graviditas, therefore <i>emesis in graviditate</i> (= vomiting in pregnancy); <i>laesus, a, um</i> x <i>laesio, onis, f.</i> , therefore <i>functio laesa lienis</i> (= damaged function of spleen); <i>perforatio oesophagi magna</i> (= large perforation of esophagus)!
5	C, D	A: <i>alienus</i> is the male form, however <i>corpus</i> is neutral; B: there is only one foreign object in the nasal cavity, <i>corpora aliena</i> is the plural form. Remember: mere Genitive form may be used to express location of a disorder/injury instead of in + ablative case form!
6	bursitidis f	

FYZIA W9

1	B	Solar eczema is a persistent eczematous eruption that predominantly affects sun-exposed skin, but which may extend to covered areas, and that may be the consequence of photodermatitis (the so-called sun allergy). A: starting = <i>incipiens</i> ; B: advancing = <i>progrediens</i> ; c: growing = <i>increscens</i>
2	pelvis	BICEPS is the 3rd declension adjective with a single gender form in Nom. Sg., its declining depends on what it describes, here it refers to <i>musculus</i> , therefore, it follows the "pelvis" paradigm.
3	B, C	There are three ways how to express uncertainty in a medical record: 1) the noun <u>suspicio</u> (often abbreviated as <u>susp.</u> at the beginning of a record) followed by the Genitive of the diagnosed problem 2) the diagnosed problem described using the adjective <u>suspectus, a, um</u> (often abbreviated as <u>susp.</u> at the end of a record) 3) using the adverb <u>verisimiliter</u> (often abbreviated as <u>v.s.</u>) at the end of the record
4	gradus us m	
5	B	Thrombosis is a formation, development, or presence of a thrombus, i.e. a blood clot; sclerosis is an induration or hardening of tissues; stenosis is an abnormal narrowing or contraction of a body passage or opening.
6	True	
7	C	comitans, ntis = accompanying
8	vena comitans	
9	A, D	

FYZIA W11

1	suspicio lateris dextri	
2	C	
3	bilateralis	The phrase <i>lateris utriusque</i> means "on both sides".
4	A, D	semel = once; bis = twice; ter = three times
5	B	The full phrase is <u>sanatio per primam/secundam/tertiam intentionem</u> , i.e. literally "healing through first/second/third intention". A is <i>per tertiam</i> , C <i>per secundam</i> .
6	compressiva	A compression fracture is a collapse of a vertebra. It may be due to trauma or due to a weakening of the vertebra. This weakening is seen in patients with osteoporosis or osteogenesis imperfecta, lytic lesions from metastatic or primary tumors, or infection. In healthy patients, it is most often seen in individuals suffering extreme vertical shocks, such as ejecting from an ejection seat.