



*Anatomy
Passion*



Lecture: 1

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General Anatomy

Lecture 1: Introduction to Human Anatomy

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Anatomy

Definition: anatomy = up (ana) + cutting (tome)

Descriptive anatomy: Regional or Systemic.

* **Regional Anatomy** : parts of body e.g. head, neck, thorax, abdomen, upper limb & lower limb.

* **Systemic Anatomy**: e.g. cardiovascular system, respiratory system, urinary system, etc

* **Developmental Anatomy (Embryology)**.

* **Applied Anatomy (clinical)**.

* **Radiological Anatomy**.

* **Surface Anatomy**.

Body Cavities

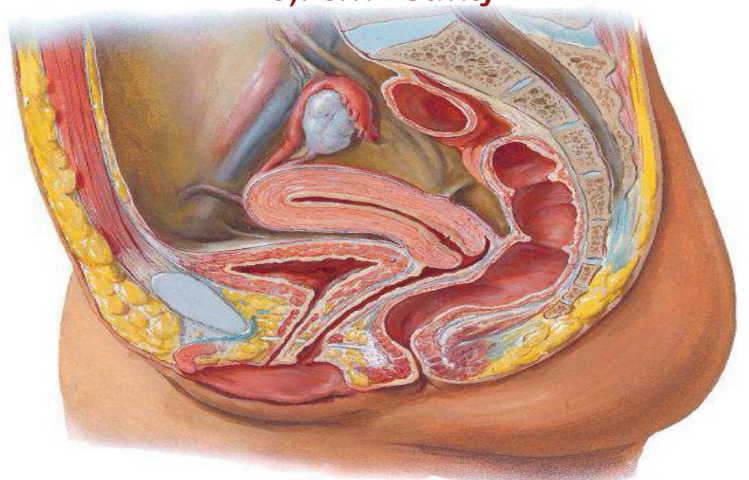
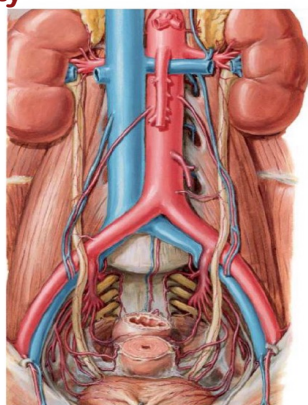
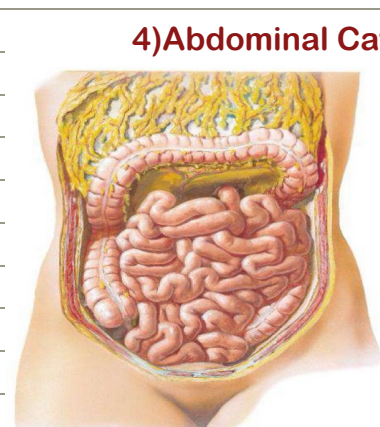
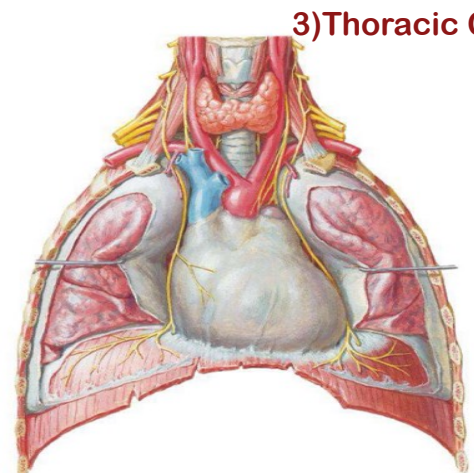
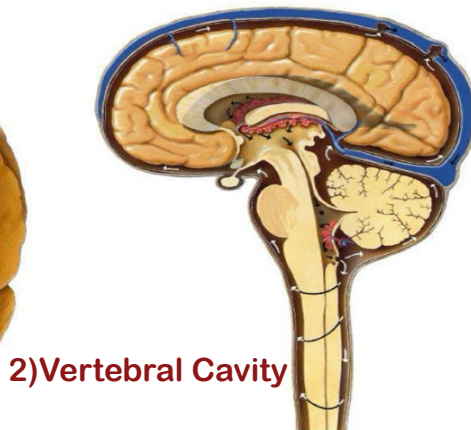
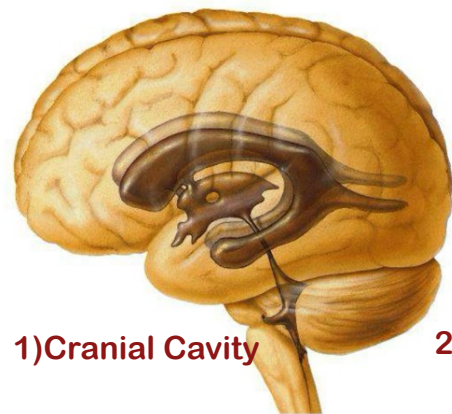
1) **Cranial Cavity**: The cavity inside the skull & Contains the brain.

2) **Vertebral Cavity**: The cavity of the vertebral column & Contains the spinal cord

3) **Thoracic Cavity**: Contains the heart inside the pericardial cavity & Contains the lungs inside the pleural cavities.

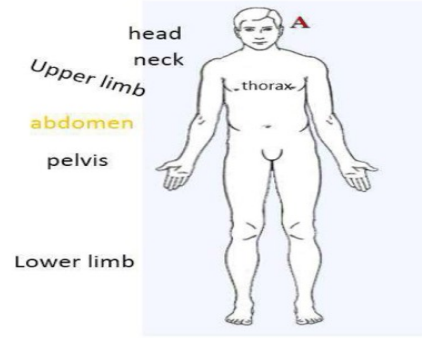
4) **Abdominal Cavity**: Contains abdominal organs such as organs of gastro- intestinal tract & kidneys

5) **Pelvic Cavity**: Contains pelvic organs such as urinary bladder, rectum & uterus & ovaries (in females).



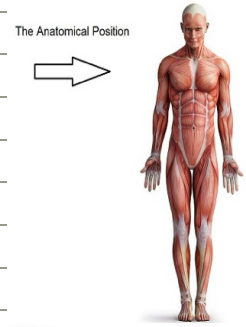
Body Regions

1. Head and Neck.
2. Abdomen & Pelvis.
3. Lower limb.
4. Upper limb.
5. Thorax.
6. Brain & spinal cord (Neuroanatomy)

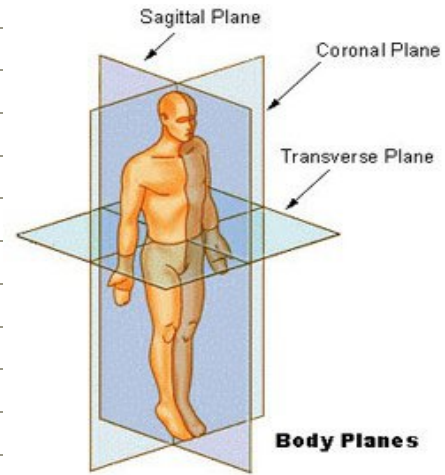
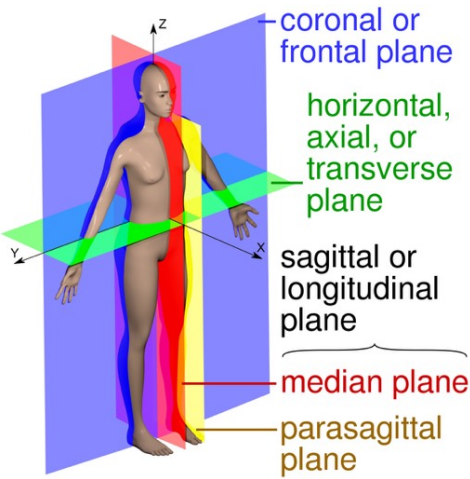


Anatomical Position

- Body erect (person standing).
- Face directed forward.
- Palms directed forward
- Limbs at sides of body.
- Legs & feet close together.



Anatomical Planes



- 1) Median (midsagittal) plane :vertical in midline, divides body into right & left equal parts(identical parts)
- 2) Parasagittal(paramedian):vertical, parallel to median.
- 3) Coronal plane(crown):vertical, perpendicular to median, divides body into anterior & posterior parts
- 4) Horizontal (transverse):perpendicular to median & coronal planes divides body into upper(superior)& lower(inferior)parts

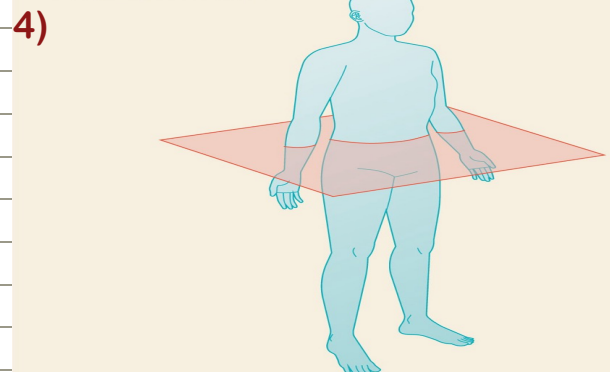
1) The Median Plane (the slice)



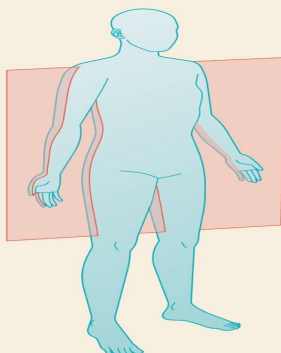
2) PARAMEDIAN PLANE



Transverse Plane



3) Coronal Plane



Anatomical Terms

1) Medial & Lateral:

Medial = closer to median plane.

Lateral = away from median plane.

2) Anterior & posterior:

Anterior or Ventral :towards the front of the body

Posterior or dorsal : towards the back of the body

• **Anterior surface of hand:palmar surface**

• **Posterior surface of hand :dorsal surface**

• **Upper surface of foot:dorsal surface**

• **Lower surface of foot:plantar surface**

3) Superior & inferior:

Superior (cephalic or cranial) = towards head.

Inferior (caudal)= towards feet.

4) Proximal & Distal:

Proximal : closer to trunk.

Distal : away from trunk.

5) Superficial & Deep:

Superficial : towards surface of body.

Deep : away from surface of body.

6) External (outer)&Internal (inner):

External (outer): means towards the surface and applies to the hollow-out structure

Internal (inner): means towards the cavity of a hollow-out structure.

7) Central&Peripheral

Central: means towards the center of the body

Peripheral: means away from the center of the body.

8) Ipsilateral&Contralateral

Ipsilateral: means of the same side of the body

Contralateral : means of the opposite side of the body.

• **In the forearm : radial = lateral & ulnar = medial.**

• **In the hand : palmar = anterior & dorsal = posterior.**

• **In the leg: fibular = lateral & tibial = medial.**

• **In the foot: plantar = inferior & dorsal = superior**

***Nose is medial to ears**

***Ears are lateral to nose**

***Frontal bone is anterior to occipital bone**

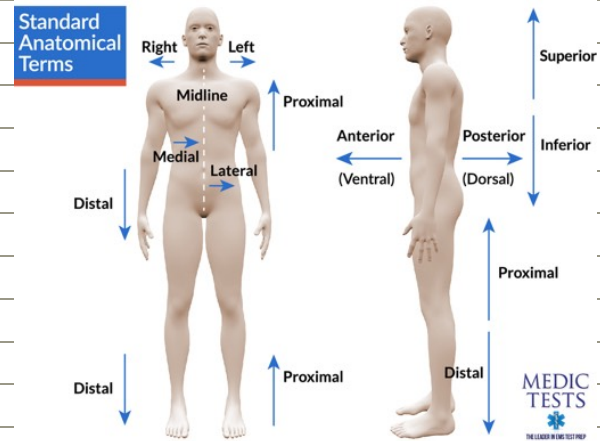
***Occipital bone is posterior to frontal bone**

***Nose is inferior to eyes**

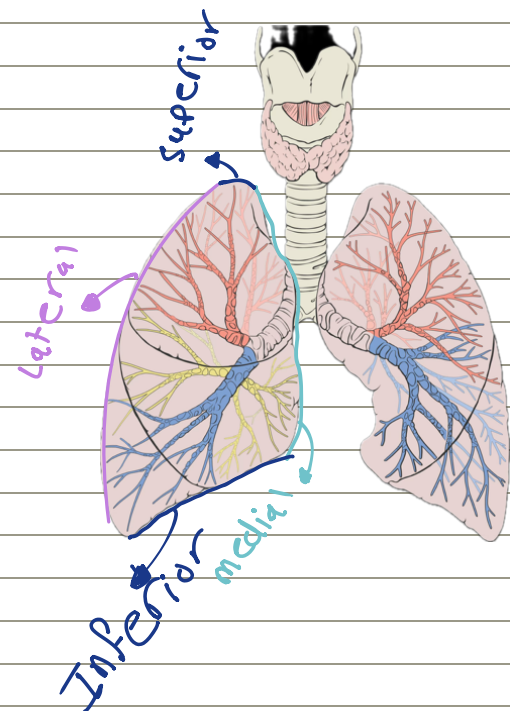
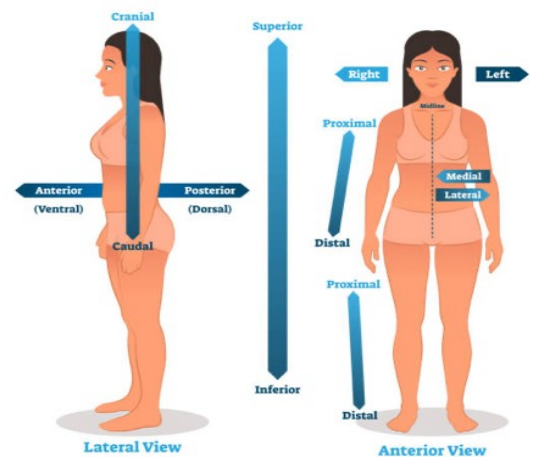
***Eyes are superior to nose**

***Skin is superficial to ribs**

***Lungs are deep to skin**



ANATOMICAL POSITION



Anatomical Terms of Movements

1) Flexion & Extension:

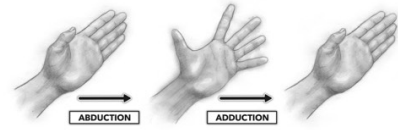
Flexion : to bend = angle = approximation of 2 ventral surfaces

Extension : to stretch = straighten = approximation of 2 dorsal surfaces

2) Abduction & Adduction:

Abduction : moving a part away from midline.

Adduction : moving a part towards the midline.

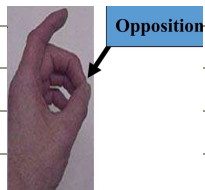


3) Abduction of fingers & toes & Adduction of fingers & toes:

Abduction of fingers & toes : spreading of fingers or toes apart.

Adduction of fingers & toes : drawing or approximating fingers or toes together.

4) Opposition (وضع التسييح): moving thumb to fingers to form O shape

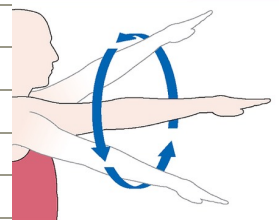


5) Circumduction: the combination in sequence of movements of flexion, abduction, extension & adduction. [ankle, shoulder, hip, wrist, thumb & fingers]

6) Medial & lateral rotation:

Medial rotation : brings anterior surface to face medially

Lateral rotation : brings anterior surface to face laterally

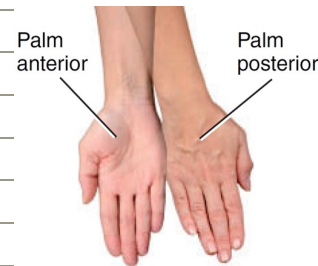


Circumduction

7) Pronation & Supination:

Pronation : (moving thumb medially) medial rotation of forearm which brings palm of hand to face posteriorly

Supination : (moving thumb laterally) lateral rotation of forearm which brings palm of hand to face anteriorly

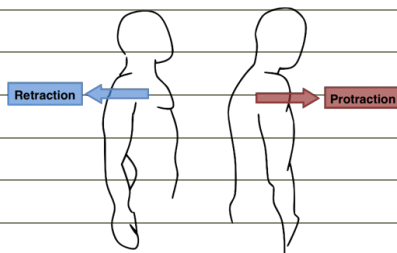


Supination Pronation

8) Protraction & Retraction: [jaw, shoulders]

Protraction : moving the jaw forwards.

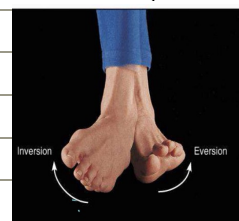
Retraction : moving the jaw backwards



9) Inversion & Eversion:

Inversion : moving foot so that sole faces medially

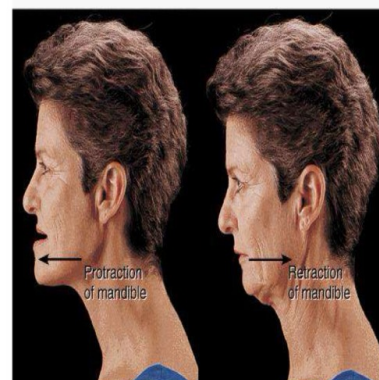
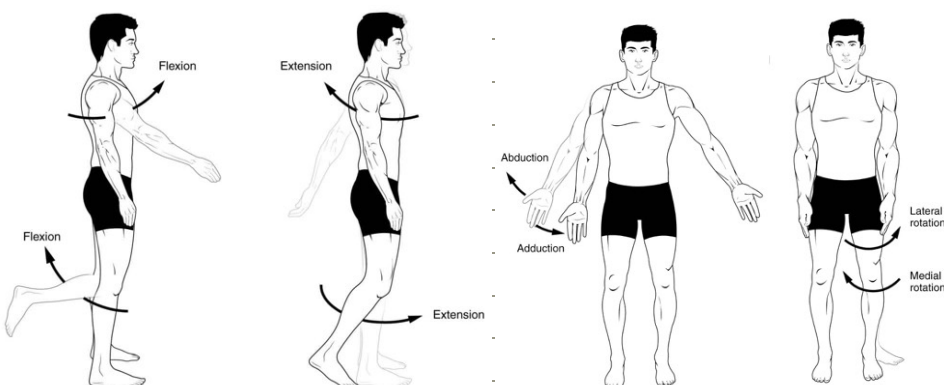
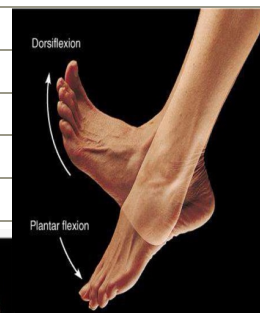
Eversion : moving foot so that sole faces laterally.



10) Dorsiflexion & Plantar flexion:

Dorsiflexion : bending foot or ankle upwards.

Plantar flexion : bending foot or ankle downwards.



1) Which statement is false regarding the anatomical position?

- a. The palms face the front.
- b. The thumbs point away from the body.
- c. The head is turned to the left side.
- d. The posture is standing erect.

2) What's another name for anterior ?

- a. Dorsal
- b. Ventral
- c. Cranial
- d. Caudal

3) The word anterior means:

- a. At or toward the front of the body
- b. Away from the insertion point of a structure.
- c. At the back or rear of the body.
- d. Toward the middle of the body

4) What's another word for "superior?"

- a. Internal
- b. Caudal
- c. External
- d. Cranial

5) Mrs. Smith has poison ivy on her shoulder, the poor thing. She reaches her right hand over to her left shoulder to "scratch that itch." Which movement is occurring at her ELBOW joint?

- A. Extension
- B. Circumduction
- C. Flexion
- D. Supination

6) Jane feels compelled to do a few jumping jacks. Which movement is taking place as her hands come together above her head?

- A. Lateral Flexion
- B. Adduction
- C. Internal Rotation
- D. Abduction

7) according to Q6: Jane has completed those jumping jacks. Her hands are now at her side. Which movement did she complete?

- A. Adduction
- B. Abduction
- C. Internal Rotation
- D. Lateral Flexion

8). Which answer describes the "Anatomical Position?"

- A. Standing erect, facing the observer, arms at the side, and palms facing to your
- B. Standing erect, facing the observer, arms at the side, and palms facing forward
- C. Standing erect, facing the observer, arms at the side, and palms facing back
- D. Standing erect, facing the observer, arms at the side, and palms facing outward

9)What is the movement of her ankles if she stands on her tip toe's to get her hands on the favorite dish in the cupboard?

- A. Plantar Flexion
- B. Extension
- C. Dorsiflexion
- D. Anterior Rotation

10)Mark is sitting in a chair, legs out in front of him, resting on an ottoman. His knees are:

- A. Hyperextended
- B. Rotated
- C. Flexed
- D. Extended

11)Which statement is correct?

- A. The ear is medial to the eye.
- B. The chin is anterior to the nose.
- C. The elbow is proximal to the shoulder.
- D. The elbow is distal to the shoulder.

12) Which statement is correct?

- A. The neck is superior to the pelvis.
- B. The chest is inferior to the stomach.
- C. The hip is superior to the shoulder.
- D. The ribs are superior to the chin.

13)Which of the following is wrong about parasagittal plane?

- A. Vertical.
- B. Divides the body into right & left equal parts.
- C. Parallel to median.
- D. Non of the above.

14)which plane gives me the Large distance from the right side?

- A. Right medsagittal plane.
- B. left parasagittal plane.
- C. Right parasagittal plane.
- D. Median plan.

15)Which of the following is mismatched?

- A. Cranial = towards head.
- B. Superficial = towards surface of the body.
- C. Proximal = further from the body.
- D. Ventral = towards front of the body.

16)All of the following are correct except one.

- A. Opposition == movement specific to the figure to the thump only.
- B. Adduction == moving apart away from midline.
- C. Eversion = moving foot so that sole faces laterally.
- D. Flexion in the knee == approximating of (2) Ventral surface.

17) Which anatomical term means "towards the head" :

- A. Superior
- B. Cephalic
- C. Inferior
- D. Caudal
- E. A+B

18) All of these are correct pairs except :

- A. Radial - lateral
- B. Palmar - anterior
- C. Planter - inferior
- D. Tibial - lateral

19) Choose the direction term that would make the sentence correct: the sternum is..... to the heart *

- A. Posterior
- B. Anterior
- C. Inferior
- D. Superior

20) Which anatomical term describes that the body part in Question is "in front of":

- A. Ventral
- B. Dorsal
- C. Inferior
- D. Superior

21) What is the name of the vertical plane that divides the body into anterior and posterior planes? *

- A. Median
- B. Right parasagittal
- C. Coronal
- D. Transverse

22) Which one of the following is a rotatory movement?

- A. Protraction
- B. Inversion
- C. Abduction
- D. Pronation

23) Abduction of fingers means movement of fingers away from:

- A. Thumb
- B. Middle finger
- C. Ring finger
- D. Little finger

24) All of the following are incorrect except..

- A. Contralateral = opposite side of the body.
- B. In the leg we can use the term radial and tibial.
- C. Dorsiflexion = bending of ankle upwards.
- D. A+C

25) The parasagittal plane divides the body into :

- A. Right and left equal halves
- B. Right and left unequal halves
- C. Anterior and posterior parts
- D. Upper and lower equal parts

26) Inversion means :

- A. Bending foot downwards
- B. Bending foot upwards
- C. Moving foot so that sole faces medially
- D. Moving foot so that sole faces laterally

27) An adductor...

- A. turns a limb to face upwards.
- B. moves a limb towards the midline.
- C. moves a limb away from the midline.
- D. moving the jaw forwards.

28). A Flexion :

- A. Increase the angle at joint.
- B. Decrease the angle at a joint.
- C. Moves a limb towards the midline.
- D. NO angle.

29). From the anatomical position, which of the following is correct.

- A. Anterior surface of hands
- B. Eyes closed.
- C. Person sitting.
- D. Non of the above.

30). Lifting the shoulders towards the ears is an example of...

- A. Extension
- a. Hoperesenion entific Team
- C. Eversion
- D. Elevation

31). Which of the following is matched?

- A. Pronation = medial rotation of foot
- B. Protraction = moving the jaw backwards
- C. Extension = approximating of (2) dorsal surface and decrease the angle
- D. Flexion = approximating of (2) Ventral surface and decrease the angle.

32) Axial skeleton includes:

- A. Femur.
- B. Tibia.
- C. Sternum.
- D. Clavicle.

Answers:

- 1)C
- 2) B
- 3)A
- 4)D
- 5)C
- 6)D
- 7)A
- 8)B
- 9)A
- 10)D
- 11)D
- 12)A
- 13)B
- 14)B
- 15)C
- 16)B
- 17)E
- 18)D
- 19)B
- 20)A
- 21)C
- 22)D
- 23)B
- 24)D
- 25)B
- 26)C
- 27)B
- 28)B
- 29)A
- 30)D
- 31)D
- 32)C

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