

- the aorta.
- the vena cava.
- the pulmonary artery.
- the capillaries.

Correct

The pulmonary artery carries oxygen-depleted blood from the heart to the lungs, where CO<sub>2</sub> is released and the supply of oxygen is replenished. This blood then returns to the heart through the pulmonary vein, and is carried through the aorta and a series of branching arteries to the capillaries, where the bulk of gas exchange with the tissues occurs. Oxygen-depleted blood returns to the heart through branching veins (the femoral veins bring it from the legs) into the vena cava, which carries it again to the heart. Since the pulmonary artery is the last step before replenishment of the blood's oxygen content, it contains the blood which is the most oxygen depleted.

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11. Question

Which layer of the heart contains striated muscle fibers for contraction of the heart?

- Pericardium.
- Epicardium.
- Endocardium.
- Myocardium.

Correct

The myocardium is the layer of the heart that contains the muscle fibers responsible for contraction (Hint: myo- is the prefix for muscle). The endocardium and epicardium are the inner and outer layers of the heart wall, respectively. The pericardium is the sac in which the heart sits inside the chest cavity.

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12. Question

Which blood vessel carries oxygenated blood back to the heart?

- Pulmonary vein.
- Pulmonary artery.

25. Question

Let B represent the dominant gene for a full head of hair, and let b represent the recessive gene for male pattern baldness. The following Punnett square represents the offspring of two people with recessive genes for baldness.

	<b>B</b>	<b>b</b>
<b>B</b>	Possibility 1	Possibility 2
<b>b</b>	Possibility 3	Possibility 4

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According to the Punnett square, which selection includes all outcomes that would produce an offspring with male pattern baldness?

- Possibility 1.
- Possibility 4.
- Possibilities 1, 2, and 3.
- Possibilities 2, 3, and 4.

Correct

The complete Punnett square is shown below.

	<b>B</b>	<b>b</b>
<b>B</b>	BB	Bb
<b>b</b>	Bb	bb

Because male pattern baldness is a recessive gene, the offspring would need the bb gene combination in order to inherit this trait. Possibility 4 corresponds to the bb gene combination.

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26. Question

Let B represent the dominant gene for a full head of hair, and let b represent the recessive gene for male pattern baldness. The following Punnett square represents the offspring of two people with recessive genes for baldness.

	<b>B</b>	<b>b</b>
<b>B</b>	Possibility 1	Possibility 2
<b>b</b>	Possibility 3	Possibility 4

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37. Question

Which of the following best describes the structures found underneath each rib in descending order?

- Vein, nerve, artery.
- Artery, vein, nerve.
- Vein, artery, nerve.
- Nerve, vein, artery.

Correct

The neurovascular structure found under each rib in descending order is the vein, artery, and nerve. When a procedure such as a thoracocentesis or chest tube needs to be performed, the medical professional should aim for directly over the rib in order to avoid damaging to these structures.

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38. Question

The table below contains information from the periodic table of elements.

Element	Atomic number	Approximate atomic weight
H	1	1
He	2	4
Li	3	7
Be	4	9

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Which pattern below best describes the elements listed in the table?

- The elements are arranged in order by weight with H being the heaviest atom and Be being the lightest atom.
- The elements are arranged in order by electron charge with H having the most electrons and Be having the fewest electrons.
- The elements are arranged in order by protons with H having the most protons and Be having the fewest protons.
- The elements are arranged in order by protons with H having the fewest protons and Be having the most protons.

Correct

peripheral parts of the body. An arteriole extends from an artery to a capillary. A venule is a tiny vein that extends from a capillary to a larger vein.

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50. Question

Which of the heart chambers is the most muscular?

1.  Left atrium.
2.  Right atrium.
3.  Left ventricle.
4.  Right ventricle.

Correct

Of the four heart chambers, the left ventricle is the most muscular. When it contracts, it pushes blood out to the organs and extremities of the body. The right ventricle pushes blood into the lungs. The atria, on the other hand, receive blood from the outlying parts of the body and transport it into the ventricles. The basic process works as follows: Oxygen-poor blood fills the right atrium and is pumped into the right ventricle, from which it is pumped into the pulmonary artery and on to the lungs. In the lungs, this blood is oxygenated. The blood then reenters the heart at the left atrium, which when full pumps into the left ventricle. When the left ventricle is full, blood is pushed into the aorta and on to the organs and extremities of the body.

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