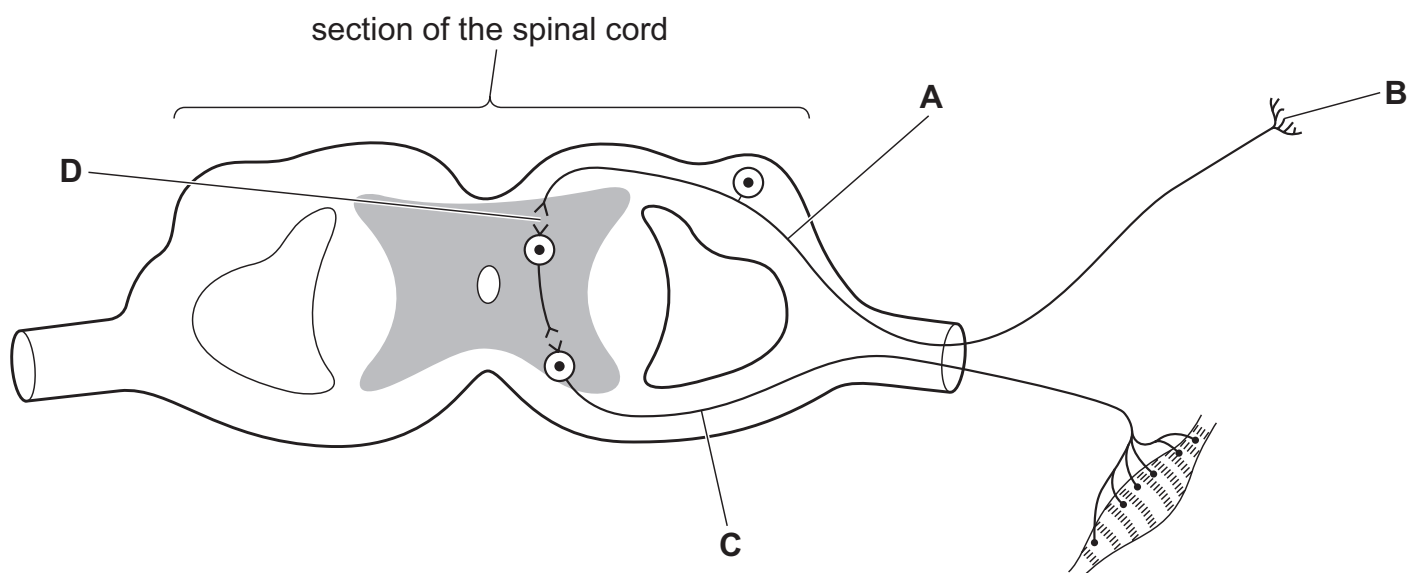


- 21** When moving from an area with low light intensity to an area with high light intensity, how do the circular and radial muscles of the iris react?

	circular muscles	radial muscles
A	contract	no change
B	contract	relax
C	relax	contract
D	relax	no change

- 18** The diagram shows the parts of the nervous system involved in a reflex arc.

Which letter identifies a synapse?



- 19** A person looks at a distant object in a dark area. The person then moves to a bright area and looks at a near object.

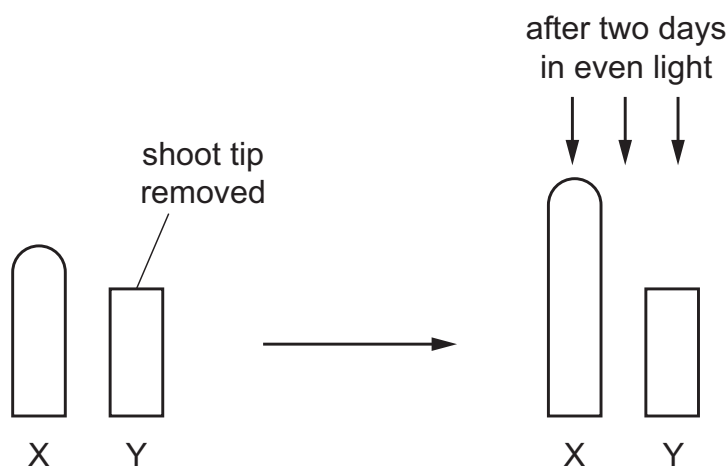
Which statement describes some of the changes that take place in the person's eyes?

- A** The circular muscles of the iris contract, the pupil constricts, the ciliary muscles relax and the lens gets thicker.
- B** The radial muscles of the iris relax, the circular muscles of the iris contract, the pupil constricts and the lens gets thinner.
- C** The radial muscles of the iris relax, the pupil constricts, the ciliary muscles contract and the lens gets thicker.
- D** The radial muscles of the iris relax, the pupil dilates, the ciliary muscles relax and the lens gets thicker.

20 Which effect does adrenaline have on blood glucose concentration and pulse rate?

	blood glucose concentration	pulse rate
A	decreases	decreases
B	decreases	increases
C	increases	decreases
D	increases	increases

21 The diagram shows an experiment using two wheat shoot tips, X and Y.



Which statement is supported by the evidence provided by this experiment?

- A** Auxin moves through the plant by osmosis.
- B** Auxin is made in the shoot tip.
- C** Auxin is unequally distributed in response to light.
- D** Auxin inhibits cell elongation.

20 Which row shows the state of the ciliary muscles and suspensory ligaments when the eye is focusing on a near object?

	ciliary muscles	suspensory ligaments
A	contracted	slack
B	contracted	tense
C	relaxed	slack
D	relaxed	tense

21 Events that occur at a synapse are listed.

They are **not** in the correct order.

- 1 An impulse is stimulated in the next neurone.
- 2 An impulse stimulates the release of neurotransmitter molecules from vesicles into the synaptic gap.
- 3 Neurotransmitter molecules bind with receptor proteins on the next neurone.
- 4 The neurotransmitter molecules diffuse across the gap.

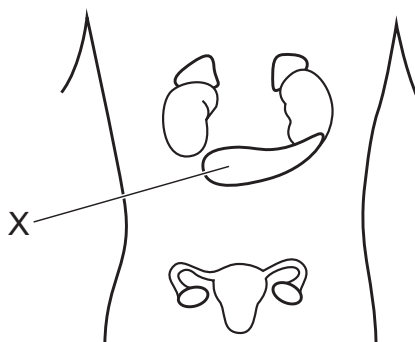
What is the actual sequence of events?

- A** 2 → 4 → 1 → 3
- B** 2 → 4 → 3 → 1
- C** 4 → 2 → 1 → 3
- D** 4 → 2 → 3 → 1

22 Which actions can prevent a mammal's internal body temperature falling too low?

- A** shivering and vasoconstriction
- B** shivering and vasodilation
- C** sweating and vasoconstriction
- D** sweating and vasodilation

23 The diagram shows the position of some of the human endocrine glands.



Which hormone is secreted by X?

- A** adrenaline
- B** insulin
- C** oestrogen
- D** testosterone

24 Which row shows the correct speed and duration for the type of control?

	type of control	speed of action	duration of effect
A	hormonal	fast	short
B	hormonal	slow	long
C	nervous	fast	long
D	nervous	slow	short