

APOLLO

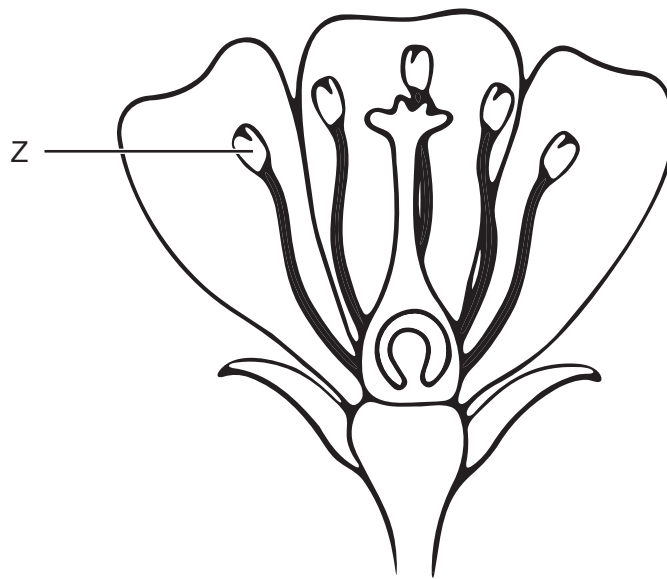
Reproduction HL

Biology

First assessment 2025

6 questions | questions

29. The diagram shows a cross-section of a flower.



What describes the structure labelled Z?

- A. Structure Z is the anther, which is part of the stamen.
- B. Structure Z is the stigma, which is part of the stamen.
- C. Structure Z is the anther, which is part of the carpel.
- D. Structure Z is the stigma, which is part of the carpel.

- 29.** Cherry trees (*Prunus avium*) have two self-incompatibility alleles. What benefit do self-incompatibility alleles have?
- A. They decrease genetic variation.
 - B. They prevent inbreeding.
 - C. They decrease the chances of mutations taking place within the gametes.
 - D. They prevent the plant from releasing pollen at certain times of the year.

30. What happens during fertilization in humans?

- A. The nuclear membranes of sperm and egg break down.
- B. The sperm enters the egg.
- C. The chromosomes undergo joint meiosis.
- D. Mitochondria in the zygote come from sperm and egg.

29. Oogenesis and spermatogenesis produce gametes. What is the sequence of events in gamete formation?

- A. Mitosis → differentiation → meiosis → cell growth
- B. Meiosis → differentiation → mitosis → cell growth
- C. Mitosis → cell growth → meiosis → differentiation
- D. Meiosis → cell growth → mitosis → differentiation

- 29.** Flowering plants can use either self-pollination or cross-pollination when they carry out sexual reproduction. Which plants are most likely to cross-pollinate?
- A. Plants that are hermaphrodites
 - B. Plants whose anthers and stigmas mature at the same time
 - C. Plants with flowers that have much longer stamens than stigmas
 - D. Plants that are either male or female

- 30.** Gametogenesis produces sex cells for sexual reproduction. What distinguishes oogenesis from spermatogenesis in humans?
- A. The first meiotic division starts at puberty.
 - B. Mitosis produces many cells for gametogenesis.
 - C. Unequal division of cytoplasm occurs at cytokinesis.
 - D. Haploid gametes are produced at the end of meiosis II.