

Past-paper walk-through

Asexual reproduction ■ 16.1

eXercise

Questions in this set

- 0610/21 N25 Q23 ■ 1 mark
- 0610/22 N25 Q23 ■ 1 mark
- 0610/21 J25 Q27 ■ 1 mark
- 0610/22 J25 Q28 ■ 1 mark
- 0610/23 J25 Q27 ■ 1 mark

Question 23

0610/21 N25 ■ Q23 ■ 1 mark

23 A gardener has a strawberry plant that produces large, sweet fruits.

How does the gardener grow more strawberry plants that **all** produce large, sweet fruits?

- A** Use asexual reproduction to produce offspring with no genetic variation.
- B** Use asexual reproduction to produce seeds that will grow into new plants.
- C** Use sexual reproduction and self-pollination as they only have one plant.
- D** Use sexual reproduction to reduce variation in the offspring.

Solution 23

Answer: **A**

Why

- Asexual reproduction produces offspring genetically identical to the parent.
- So every new plant will have the same large, sweet fruit.
- Sexual reproduction would mix in another plant's alleles and the fruit could differ.

Question 23

0610/22 N25 ■ Q23 ■ 1 mark

23 What is an example of asexual reproduction?

- A** a single bacterium dividing to produce two genetically identical bacteria
- B** a mammal giving birth to four offspring
- C** a female bird laying six eggs which will hatch into the same species
- D** a tomato plant producing fruits which contain many seeds

Solution 23

Answer: **A**

Why

- Asexual reproduction involves one parent and no gametes.
- A bacterium dividing into two identical cells is exactly that.
- Any case involving eggs, sperm or fertilisation is sexual reproduction.

Question 27

0610/21 J25 ■ Q27 ■ 1 mark

- 27** The diagram shows one parent *Hydra* growing and releasing an offspring from the side of its body.



Question 27

parent
Hydra

Which row is correct?

	parent and offspring are genetically identical	involves asexual reproduction
A	yes	yes
B	yes	no
C	no	yes
D	no	no

Solution 27

Answer: **A**

Why

- Budding is asexual reproduction, involving only mitosis.
- So the offspring is genetically identical to the parent – a clone.
- No gametes and no fertilisation are involved.

Question 28

0610/22 J25 ■ Q28 ■ 1 mark

28 What are the characteristics of asexual reproduction?

	fusion of gamete nuclei	genetic variety in the offspring
A	yes	yes
B	yes	no
C	no	yes

Question 28

D	no	no
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Solution 28

Answer: **D**

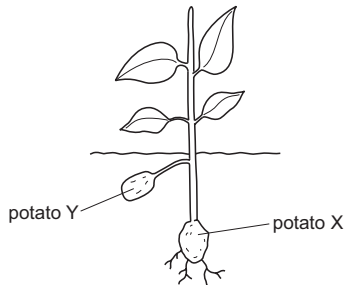
Why

- Asexual reproduction involves only mitosis – there are no gametes and no fusion of nuclei.
- The offspring are therefore genetically identical to the parent.
- So there is no genetic variety, and no fusion of gamete nuclei.

Question 27

0610/23 J25 ■ Q27 ■ 1 mark

- 27** The diagram shows reproduction in a potato plant. Potato X was planted into the ground and a plant grew from it. The plant then produced potato Y.



Question 27

Which statement is correct?

- A** X and Y are genetically different.
- B** Y was produced by asexual reproduction.
- C** Y was produced by sexual reproduction.
- D** Y was produced by the fusion of gametes.

Solution 27

Answer: **B**

Why

- Growing a new plant from a tuber is asexual reproduction, using only mitosis.
- So potato Y is genetically identical to potato X.
- No gametes, no fertilisation and no genetic variation are involved.