

Reproduction

Question Paper 1

Level	IGCSE
Subject	Biology (0610/0970)
Exam Board	Cambridge International Examinations (CIE)
Topic	Reproduction
Sub-Topic	Reproduction
Booklet	Question Paper 1

Time Allowed: 48 minutes

Score: /40

Percentage: /100

Grade Boundaries:

9	8	7	6	5	4	3	2	1
>85%	75%	68%	60%	53%	48%	40%	33%	<25%

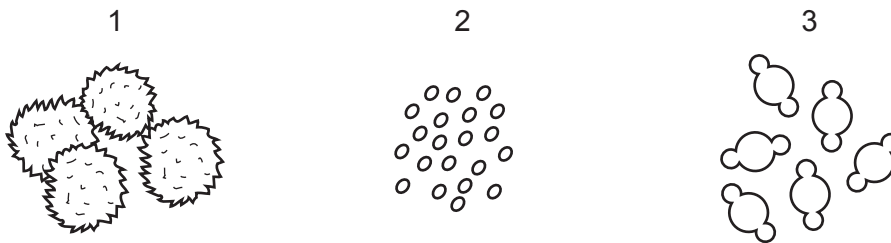
1 When a baby is born, these processes occur.

- 1 breaking of the amniotic sac
- 2 contraction of muscles in the uterus wall
- 3 cutting of the umbilical cord

In which order do these processes usually occur?

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

2 The diagrams show pollen grains from three different species of plant as they appear under the microscope. The diagrams are all to the same scale.

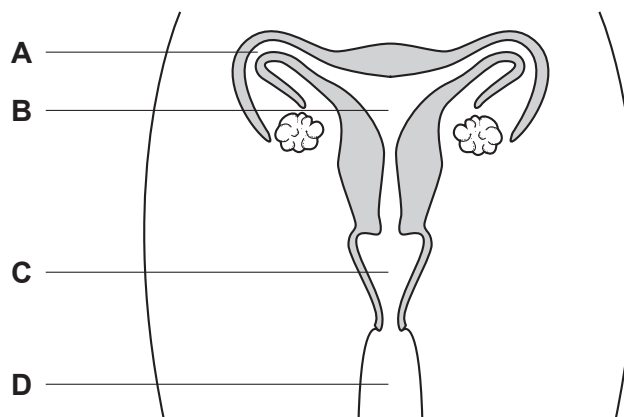


Which pollen grains are involved in insect-pollination?

- A 1 and 2 B 1 only C 2 and 3 D 3 only

3 The diagram shows the human female reproductive system.

If a woman uses a femidom as a contraceptive, where would it be placed?



4 In which conditions will seeds germinate most quickly?

- A** dry and cold
- B** dry and warm
- C** wet and cold
- D** wet and warm

5 What are the characteristics of asexual reproduction?

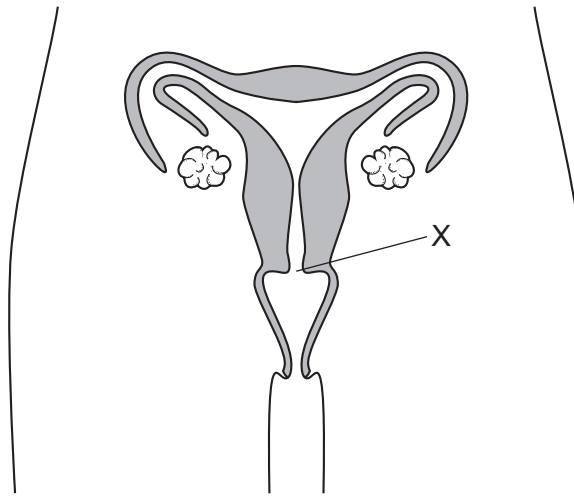
	fusion of gamete nuclei	genetic variety in the offspring
A	✓	✓
B	✓	x
C	x	✓
D	x	x

6 The table shows the conditions provided for four sets of seeds.

Which of the seeds germinate?

	oxygen	water	carbon dioxide
A	✓	✓	✓
B	✓	x	x
C	x	✓	✓
D	x	x	x

7 The diagram shows a human female's reproductive organs.



What is the name of structure X?

- A cervix
- B ovary
- C oviduct
- D ovule

8 What are advantages of sexual and asexual reproduction?

	advantage of sexual reproduction	advantage of asexual reproduction
A	less population growth	only one parent required
B	more energy efficient	gametes can be transferred by environment
C	more genetic variation	faster
D	no transfer of gametes needed	does not compete with the parent for nutrients

9 Where are oestrogen and progesterone produced during the menstrual cycle?

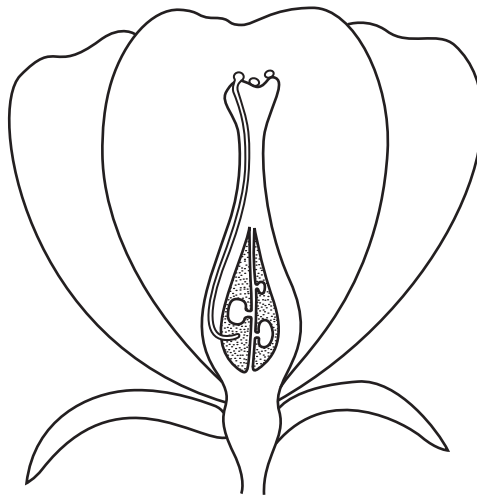
	oestrogen	progesterone
A	hypothalamus	ovary
B	ovary	ovary
C	ovary	placenta
D	placenta	pituitary gland

10 A teacher said a way to remember the difference between two groups of cells is 'many, minute and motile' or 'few, fat and fixed'

What are the groups of cells?

- A** animal and plant cells
- B** male and female gametes
- C** red and white blood cells
- D** xylem and phloem cells

11 The diagram shows a flower.



Which processes have taken place?

	pollination	fertilisation
A	no	no
B	no	yes
C	yes	no
D	yes	yes

12 The concentrations of LH and oestrogen are measured during part of a menstrual cycle.

On which day does ovulation occur?

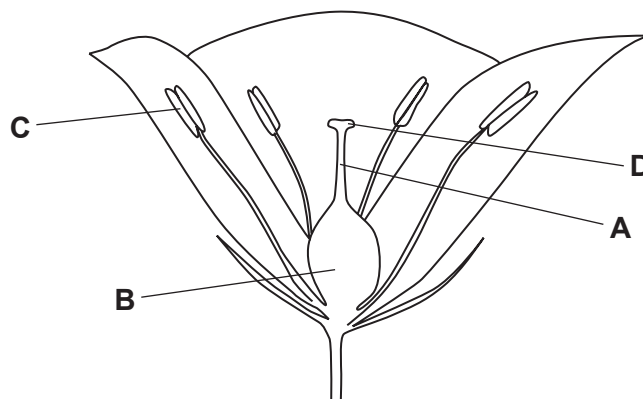
	date	concentration of LH / arbitrary units	concentration of oestrogen / arbitrary units
A	March 25 th	10	30
B	March 28 th	12	135
C	March 31 st	120	130
D	April 3 rd	20	25

13 What must always be available to allow seeds to germinate?

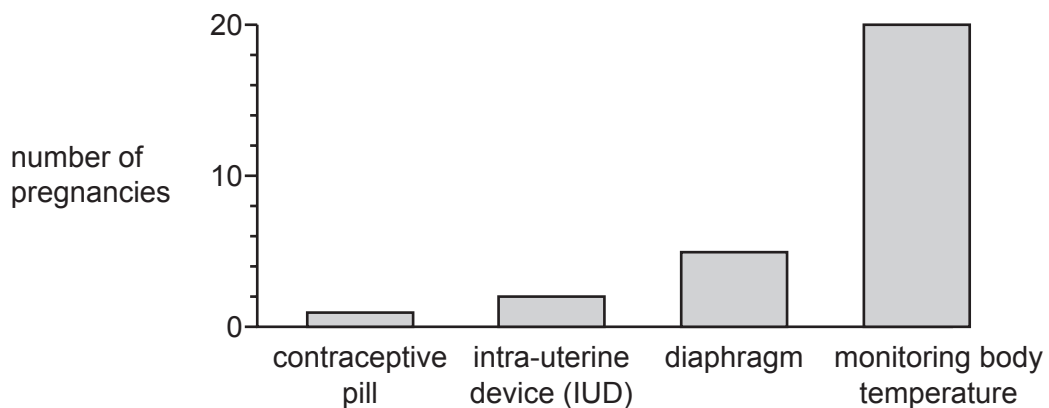
- A carbon dioxide
- B light
- C mineral salts
- D water

14 The diagram shows a flower.

In which structure do seeds develop?



15 The graph shows the number of pregnancies in four groups of 100 women. Each group used a different method of contraception.



The method of contraception which is the **least** effective is

- A barrier.
- B chemical.
- C natural.
- D surgical.

16 The following statements are about some hormones in the human body.

V causes changes in the ovaries during the menstrual cycle

W promotes the development of stronger muscles

X causes the voice to deepen at puberty

Y produced by the pancreas

Which statements are correct for testosterone?

A V and W

B V and Y

C W and X

D X and Y

17 Which hormone maintains the lining of the uterus during pregnancy?

A FSH

B oestrogen

C progesterone

D testosterone

18 In sexual reproduction in humans, why are sperm cells produced in much greater numbers than egg cells?

A More than one sperm cell fertilises an egg.

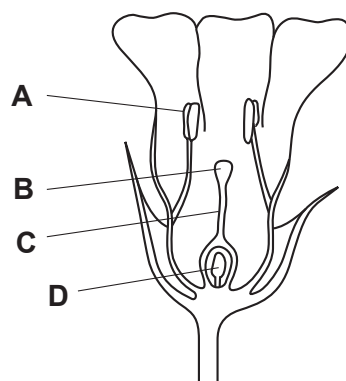
B Sperm cells are small in size.

C Sperm cells live for only a short time.

D The chance of one sperm cell reaching an egg is very small.

19 The diagram shows half a flower.

On which structure would pollen be deposited in pollination?



20 In which region does diffusion of materials take place between mother and fetus?

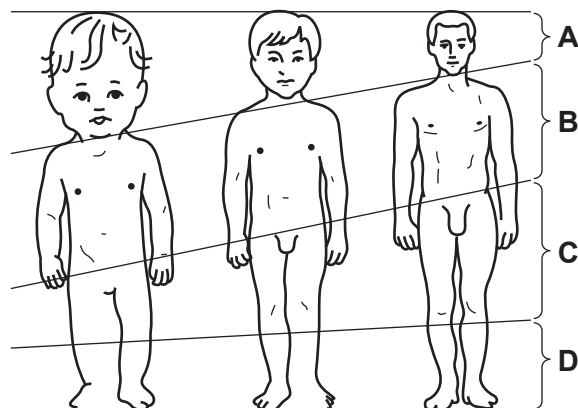
- A amniotic sac
- B ovary
- C placenta
- D umbilical cord

21 During childbirth, what must happen to the cervix and the uterus wall?

	cervix	uterus wall
A	contracts	contracts and relaxes
B	contracts	relaxes
C	dilates	contracts and relaxes
D	dilates	relaxes

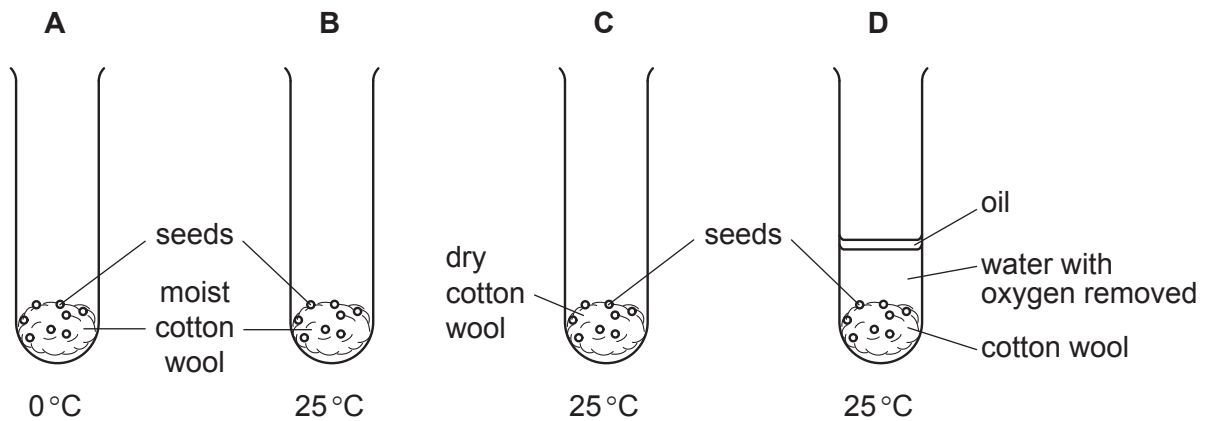
22 The diagram shows a baby, a child and an adult (not drawn to the same scale)

As a baby grows into an adult, which labelled region grows the **most**?

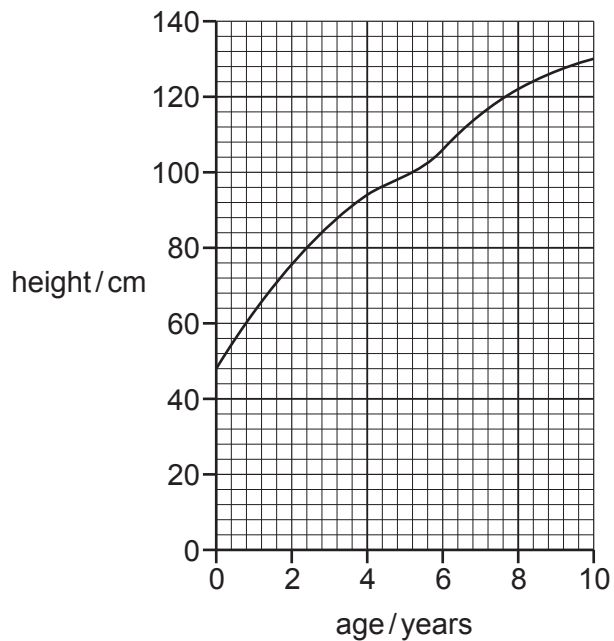


23 Four tubes were set up as shown and placed in the dark.

In which tube would the seeds germinate first?



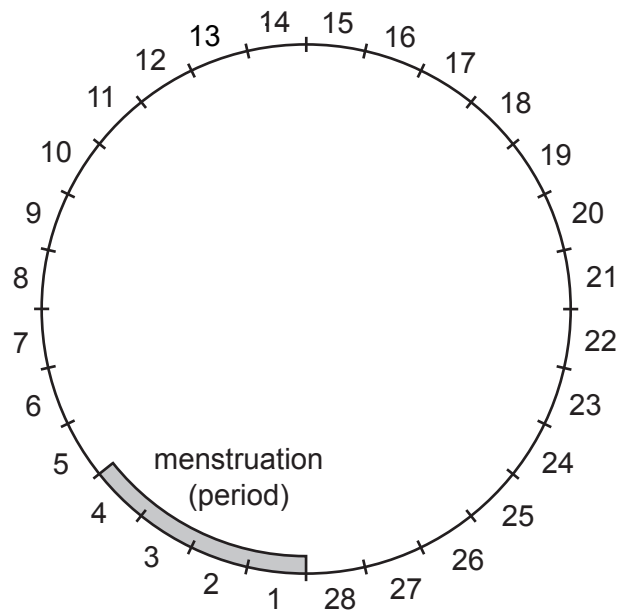
24 The graph shows the height of a child, from birth to the age of 10.



What was the approximate height of the child at 7 years of age?

- A** 106 cm **B** 116 cm **C** 122 cm **D** 130 cm

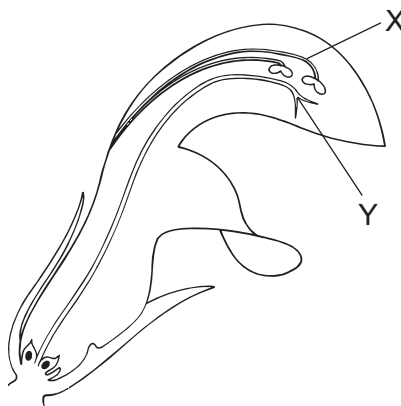
25 The diagram shows a timeline of a woman's menstrual cycle, which lasts for 28 days



On which days of the menstrual cycle is a woman most likely to become pregnant?

- A days 1 - 4
- B days 7 - 10
- C days 13 - 16
- D days 20 - 23

26 The diagram shows a vertical section through a flower.



What are X and Y?

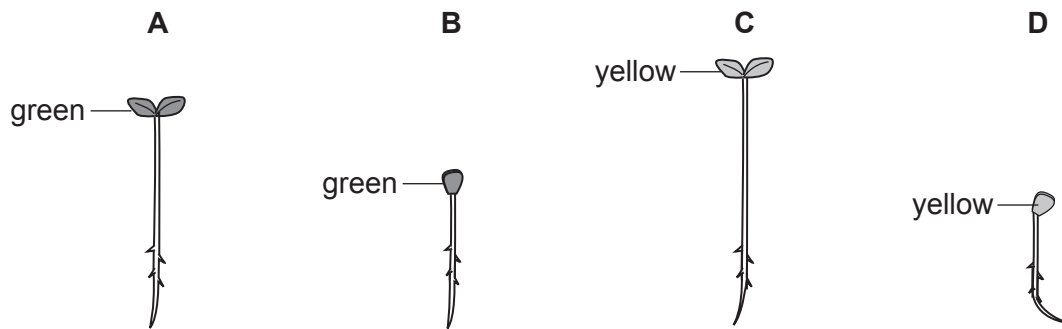
	X	Y
A	anther	stigma
B	anther	style
C	stamen	stigma
D	stamen	style

27 Four samples of seeds germinated in different conditions of temperature and light, as shown in the table.

sample	temperature / °C	light
1	20	absent
2	20	present
3	5	absent
4	5	present

A typical seedling from each sample was removed after seven days.

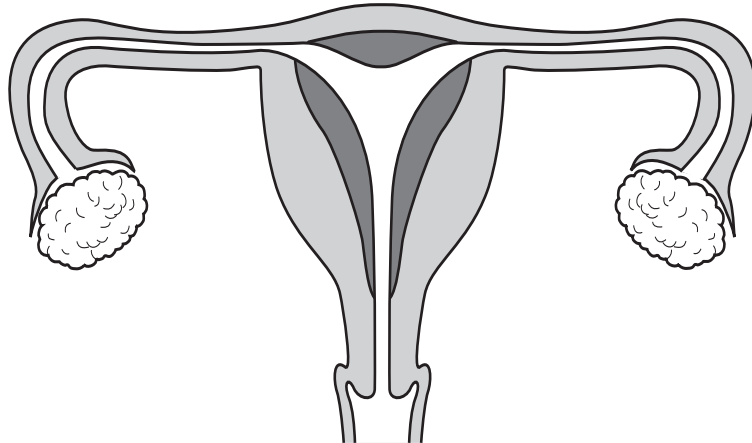
Which seedling was from sample 2?



28 Which structure is involved in the transfer of dissolved nutrients from the mother to the fetus?

- A kidney
- B liver
- C placenta
- D stomach

29 The diagram shows the human female reproductive system.



After ejaculation, along which route does a male gamete travel to fuse with an egg?

- A ovary → oviduct → uterus → cervix
- B ovary → uterus → cervix → vagina
- C vagina → cervix → uterus → oviduct
- D vagina → uterus → cervix → oviduct

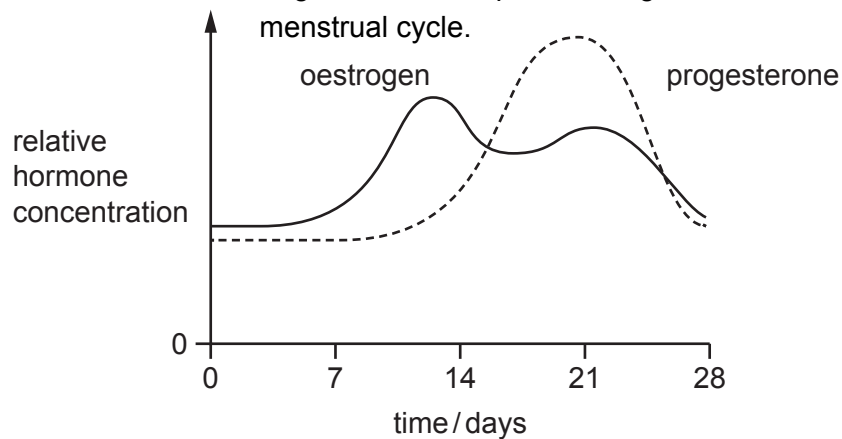
30 Which set of conditions is required for seed germination?

	oxygen	warmth	water
A	✓	x	✓
B	✓	✓	x
C	x	✓	✓
D	✓	✓	✓

31 Which method of birth control is based on knowing the stage of a woman's menstrual cycle?

- A condom
- B contraceptive pill
- C diaphragm
- D rhythm method

32 The diagram shows some changes which take place during a woman's



Assuming ovulation occurs on day 14, what is occurring at the time of ovulation?

- A a fall in the levels of oestrogen and progesterone
- B a fall in the level of progesterone only
- C a rise in the level of oestrogen
- D a rise in the level of progesterone and fall in the level of oestrogen

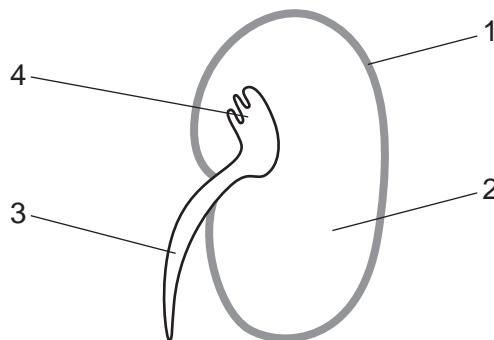
33 Development is defined as an increase in

- A complexity.
- B dry mass.
- C number of cells.
- D size.

34 In addition to a suitable temperature, what else is always necessary for seed germination?

- A carbon dioxide and sunlight
- B mineral ions
- C sunlight and water
- D water and oxygen

35 The diagram shows a germinating broad bean seed which has been cut in half.



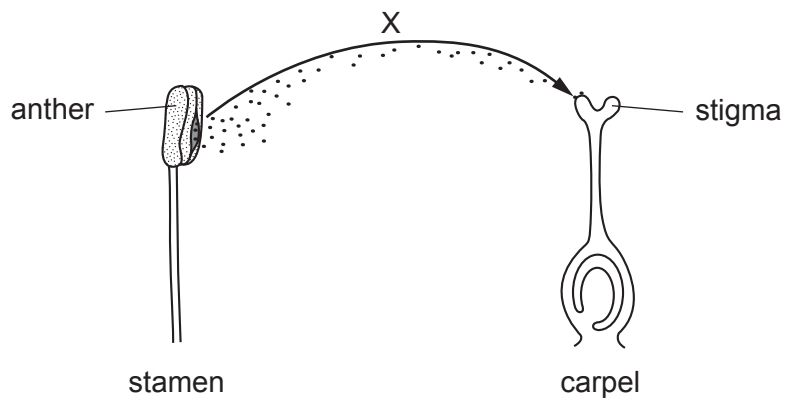
Which labels show the cotyledon and the plumule?

	cotyledon	plumule
A	1	3
B	1	4
C	2	3
D	2	4

36 What defines the development of an organism?

- A increase in age
- B increase in complexity
- C increase in height
- D increase in length

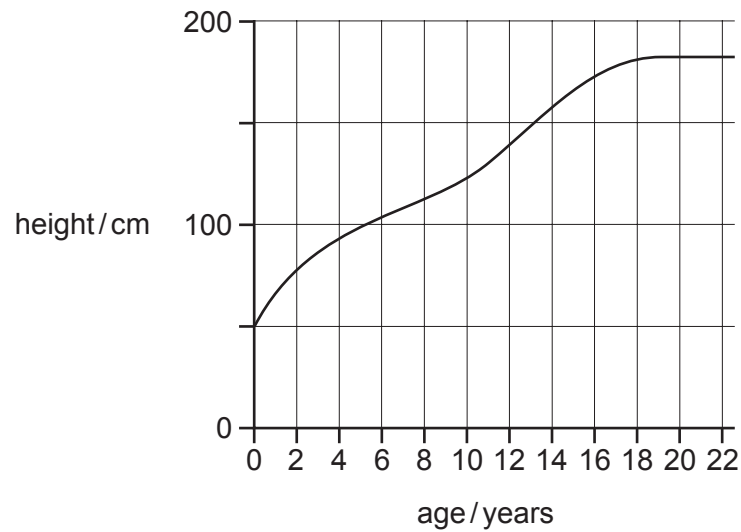
37 The diagram shows a process in plant reproduction.



Which process is represented by arrow X?

- A fertilisation
- B pollen tube growth
- C pollination
- D seed dispersal

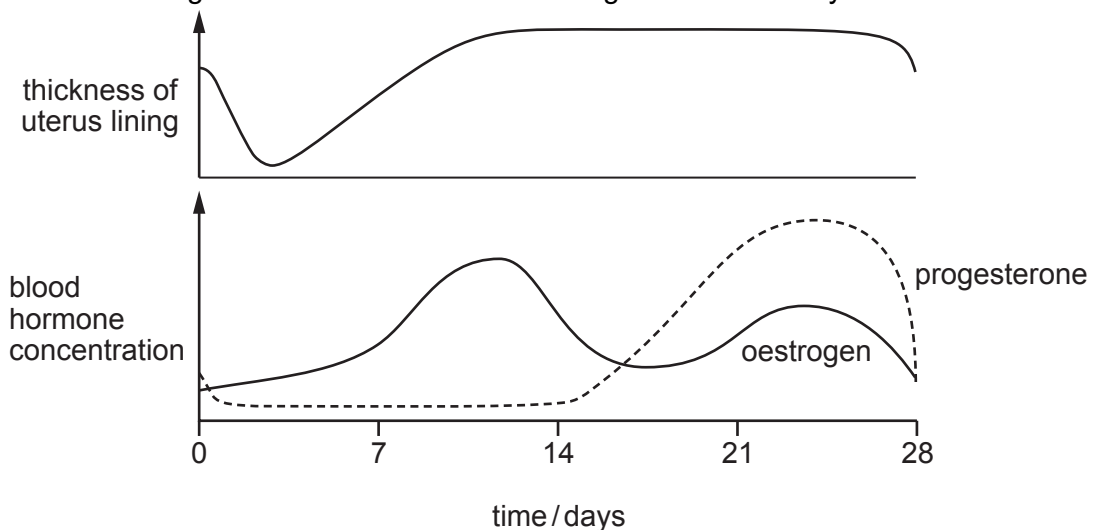
38 The graph shows how human height changes with age.



In which age range is the growth rate slowest?

- A 0–2 years
- B 8–10 years
- C 12–14 years
- D 18–20 years

39 The graphs show changes that occur in a woman during the menstrual cycle.



Which statement is supported by evidence in the graphs?

- A A large increase in progesterone concentration always results in thickening of the uterus lining.
- B At ovulation, the uterus lining is at its thickest.
- C Each time the oestrogen concentration rises, the uterus lining becomes thicker.
- D Within 5 days of ovulation, the uterus lining gets thinner.

40 In arthropods, growth occurs only after the exoskeleton is shed and before the new one hardens.

Which graph shows a typical growth curve for an arthropod?

