

0 1

This question is about reproduction.

0 1 . 1

Which **two** statements are true for sexual reproduction in humans?**[2 marks]**Tick (✓) **two** boxes.

Gametes are formed.

Offspring are clones.

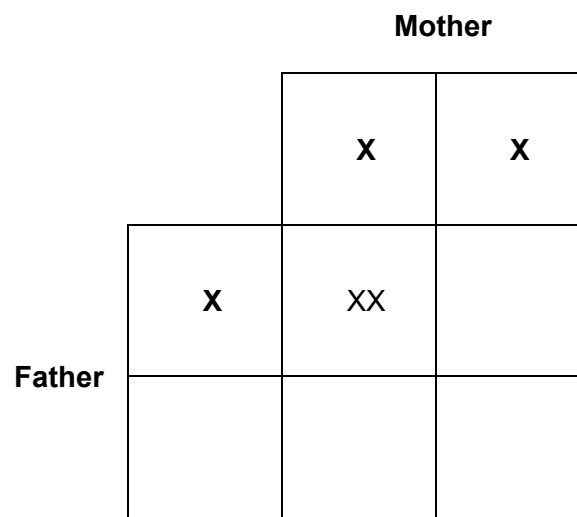
Offspring are genetically identical to parents.

Only one parent is involved.

Sperm and egg fuse.

0 1 . 2

Humans reproduce by sexual reproduction.

Complete **Figure 1** to show the inheritance of sex.**[3 marks]****Figure 1**

0 1 . 3 Draw a ring around the genotype of all male children in **Figure 1**.

[1 mark]

0 1 . 4 When children reach puberty, reproductive hormones cause changes in their bodies.

Draw **one** line from each hormone to the change the hormone causes at puberty.

[2 marks]

Hormone

**Change the hormone
causes at puberty**

Oestrogen

Breasts develop

Skin turns lighter

Testosterone

Voice becomes deeper

Wisdom teeth appear

Question 1 continues on the next page

Turn over ►



A woman does **not** want to become pregnant.

She considers two methods of contraception.

0 1 . 5 Draw **one** line from each method of contraception to how the method prevents pregnancy.

[2 marks]

Method of contraception

How the method prevents pregnancy

Condom

Embryos do not
implant in the uterus

Hormones stop
eggs maturing

Oral contraceptive
(the pill)

Sperm are killed

Sperm do not reach
the egg



0 1 . 6

Give **one** advantage and **one** disadvantage of taking oral contraceptives to prevent pregnancy.

[2 marks]

Advantage _____

Disadvantage _____

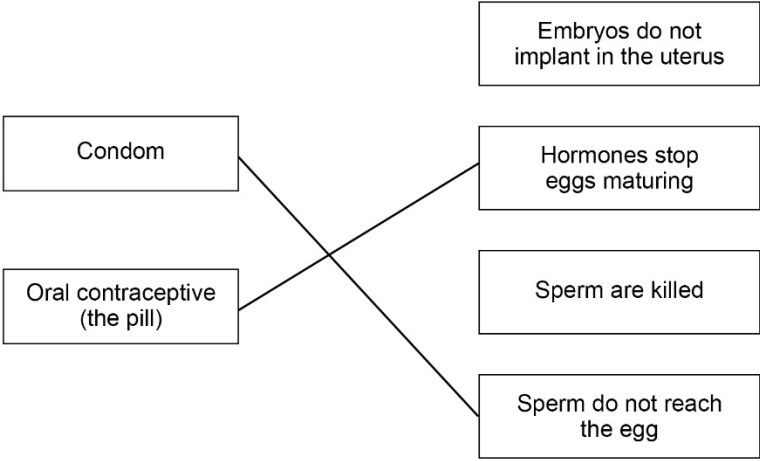
12

Turn over for the next question

Turn over ►



Question	Answers	Extra information	Mark	AO / Spec. Ref.															
01.1	gametes are formed sperm and egg fuse		1 1	AO1 4.6.1.1															
01.2	<p>Y gamete for father</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td colspan="2"></td> <th colspan="2">Mother</th> </tr> <tr> <td colspan="2"></td> <td>X</td> <td>X</td> </tr> <tr> <th rowspan="2">Father</th> <td>X</td> <td>XX</td> <td>XX</td> </tr> <tr> <td>Y</td> <td>XY</td> <td>XY</td> </tr> </table>			Mother				X	X	Father	X	XX	XX	Y	XY	XY	<p>all derivations correct = 2 marks 1 or 2 correct = 1 mark</p> <p>allow correct derivations from incorrect gamete</p>	1 2	AO2 4.6.1.6
		Mother																	
		X	X																
Father	X	XX	XX																
	Y	XY	XY																
01.3	rings drawn around all XY	<p>allow one ring drawn around both XY ignore ring drawn around father's genotype</p> <p>ecf any letter for Y, except X</p>	1	AO2 4.6.1.6															
01.4	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Hormone</th> <th style="width: 50%;">Change that hormone causes at puberty</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Oestrogen</td> <td style="text-align: center;">Breasts develop</td> </tr> <tr> <td></td> <td style="text-align: center;">Skin turns lighter</td> </tr> <tr> <td style="text-align: center;">Testosterone</td> <td style="text-align: center;">Voice becomes deeper</td> </tr> <tr> <td></td> <td style="text-align: center;">Wisdom teeth appear</td> </tr> </tbody> </table> <p>If more than one line from a hormone no mark for that hormone</p>	Hormone	Change that hormone causes at puberty	Oestrogen	Breasts develop		Skin turns lighter	Testosterone	Voice becomes deeper		Wisdom teeth appear		1 1	AO2 4.5.3.3					
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<p>01.5</p>	<p>Method of contraception</p>  <p>If more than one line from a method of contraception no mark for that method</p>	<p>How the method prevents pregnancy</p> <p>Embryos do not implant in the uterus</p> <p>Hormones stop eggs maturing</p> <p>Sperm are killed</p> <p>Sperm do not reach the egg</p>	<p>1 1</p>	<p>AO1 4.5.3.4</p>
<p>01.6</p>	<p>advantage – any one from:</p> <ul style="list-style-type: none"> • very reliable • easy to take • do not have to rely on partner • helps to treat acne or period pain <p>disadvantage – any one from:</p> <ul style="list-style-type: none"> • may cause side effects • may affect her fertility later • have to remember to take it (every day) • does not protect against STIs 	<p>ignore you do not get pregnant</p> <p>allow described eg headaches, nausea, putting on weight</p> <p>allow you have to take it every day</p>	<p>1 1</p>	<p>AO3 4.5.3.4</p>
<p>Total</p>			<p>12</p>	