Year 13 Science: Human manipulation of genetic transfer

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. A sheep flock averages 4.0 kg of wool per sheep. Parents chosen average 5.0 kg, and $h^2 = 0.40$. Predict the offspring average.

2. EcoRI cuts this 35–base strand after the G in each GAATTC. Give the fragment lengths: CCTGA ATTCA GGCTA ATCGG CATGA ATTCA TGGCA

3. A gene from a bacterium is put into maize so the maize makes an insect toxin. Name this kind of manipulation.

4. Why does a field of cloned plants risk being wiped out by one new disease?

5. A patient's bone marrow cells are edited to treat sickle cell disease. Will the change pass to the patient's children?

Fix the mistake

6. Correct this statement: "Selective breeding creates new genes for the traits we want."

7. Correct this statement: "Gene therapy on a patient's blood cells will be passed on to their children."

8. Correct this statement: "A clone of a prize bull will look and perform exactly the same."

9. Correct this statement: "Gene editing is banned in New Zealand."