[1](https://blackboard.strayer.edu/webapps/discussionboard/do/message?action=list_messages&course_id=_231444_1&nav=discussion_board&conf_id=_197247_1&forum_id=_2764165_1&message_id=_69398375_1)

* [2](https://blackboard.strayer.edu/webapps/discussionboard/do/message?action=list_messages&course_id=_231444_1&nav=discussion_board&conf_id=_197247_1&forum_id=_2764165_1&message_id=_69398375_1)
* [3](https://blackboard.strayer.edu/webapps/discussionboard/do/message?action=list_messages&course_id=_231444_1&nav=discussion_board&conf_id=_197247_1&forum_id=_2764165_1&message_id=_69398375_1)
* [4](https://blackboard.strayer.edu/webapps/discussionboard/do/message?action=list_messages&course_id=_231444_1&nav=discussion_board&conf_id=_197247_1&forum_id=_2764165_1&message_id=_69398375_1)
* [5](https://blackboard.strayer.edu/webapps/discussionboard/do/message?action=list_messages&course_id=_231444_1&nav=discussion_board&conf_id=_197247_1&forum_id=_2764165_1&message_id=_69398375_1)

**Discussion**

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| **Pedigrees for Topics 1 and 2.** A document in this week’s Instructor Insights folder contains the pedigree for three different traits from the same family. Each pedigree follows the usual conventions for pedigrees: squares are male; circles are female; offspring are drawn under each mating pair. Individuals with the trait are shaded. See the textbook for more information about pedigrees. |

**Topic 1. Pedigree for Trait 1.** Suppose that we are certain that Trait 1 follows a Mendelian pattern of inheritance and that Trait 1 is an autosomal dominant trait. Suppose further that the dominant allele is designated as **A** and the recessive allele is **a**.

* (a) Determine the genotype of Alan Blue and explain how you determined it. Go through your logic and reasoning step by step.
* (b) If we were wagering on the genotype of Harlan Brown, what genotype would you put your money on? Explain.

**Topic 2. Pedigrees for Trait 2.** Suppose that we are certain that Trait 2 follows a Mendelian pattern of inheritance and that Trait 2 is an autosomal recessive trait. Suppose further that the the dominant allele is **B** and the recessive allele is **b**.

* (a) Determine the genotype of Alan Blue and explain how you determined it. Go through your logic and reasoning step by step.
* (b) Determine the genotype of Denise Hawk and explain how you determined it. Go through your logic and reasoning step by step.

**Topic 3. Esvelt’s Regret.** In the article by Zimmer (1), Kevin Esvelt says that he made a huge mistake by championing the application of a technology that he now says is far too dangerous to actually deploy. In a post of about 125 words, address the following:

* (a) What is the technology that Esvelt championed? What does this technology do? Why does he think it’s too risky to use outside the lab?
* (b) In your opinion, what sorts of laws and regulations, if any, should society put into place to regulate the technology that Esvelt regrets championing?

**Topic 4. Societal Aspects of Human Gene Editing**. Read the article by Neuhaus (2) and/or the article by Ossola, then address the following:

* (a) Where do you think our procedures, regulations and laws ought to come down regarding human genome editing, with CRISPR (or any other tool)? Take a clear position on this.
* (b) Explain your rationale.

References

1. Carl Zimmer, November 16, 2017, 'Gene drives' are too risky for field trials, scientists say, <https://www.nytimes.com/2017/11/16/science/gene-drives-crispr.html?_r=0>
2. Carolyn P. Neuhaus, March 16, 2017, Genome editing: bioethics shows the way. <http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.2001934>
3. Alexandra Ossola, August 6, 2015, Should bioethicists "get out of the way" of CRISPR research?, [https://www.popsci.com/should- bioethicists-get-out-way-crispr-research](https://www.popsci.com/should-bioethicists-get-out-way-crispr-research)