Bio EOC practice quiz 4

1-24-17

1. **The transmission of a genetic disorder is shown in the pedigree below.**

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**According to the pedigree, what is the mode of inheritance for this disorder?**

1. **Nonsex-linked dominant trait**
2. **Nonsex-linked recessive trait**
3. **Sex-linked trait carried on the Y chromosome**
4. **Sex-linked trait carried on the X chromosome**
5. **Meiotic cell division results in gametes that produce sperm and egg cells by**
	1. **Reducing the daughter chromosome number by 75%**
	2. **Reducing the daughter chromosome number by 50%**
	3. **Increasing the daughter chromosome number by 50%**
	4. **Increasing the daughter chromosome number by 75%**
6. **Which process most contributes to genetic variation in a population?**
	1. **Crossing over during meiosis**
	2. **Chromosome replication during mitosis**
	3. **Cytokinesis during cellular division**
	4. **Duplication of chromosomes in asexual reproduction**
7. **Scientists have developed a way to analyze and compare DNA sequences between humans. Using this genetic information would be most beneficial for**
	1. **Identifying individuals**
	2. **Dating the age of fossils**
	3. **Creating new gene sequences**
	4. **Determining proteins produced in skin cells**
8. **The chemical equation below shows the reaction of glucose and oxygen.**

**C6H12O6 +6O2 YIELDS 6CO2 + 6H2O +36ATP**

**Which process does this equation represent?**

* 1. **Photosynthesis**
	2. **Aerobic respiration**
	3. **Anaerobic respiration**
	4. **Nitrogen fixation**
1. **A student tests an unknown colorless solution for the presence of sugars, starches, lipids, and proteins. The results are shown in the table below.**

**Unknown Solution Results**

|  |  |
| --- | --- |
| **Testing Indicator** | **Observation colorless to:** |
| **Iodine** | **Brownish- orange** |
| **Benedict’s solution** | **Orange** |
| **Biuret solution** | **Purple** |
| **Brown paper bag** | **No mark, completely dry** |

 **Based on the data collected, which molecules are present in the unknown solution.**

1. **Starches and lipids**
2. **Proteins and starches**
3. **Sugars and proteins**
4. **Lipids and proteins**
5. **A researcher presented the results from an experiment on the effectiveness of a new types of eyedrops. The eyedrops were designed to prevent contact lenses from drying out and irritating the eyes. The researcher tested the eyedrops over a two-year period using subjects who wore various types of contact lenses. The results of the research showed that the eyedrops did prevent contact lenses from drying out. Before manufacturing the new drops, the researcher must verify that his results are free of bias by**
	1. **Extending his research for three more years**
	2. **Investigation similar products and their results**
	3. **Testing a larger population of subjects using different brands**
	4. **Having an independent research company perform the same investigation**