

PHY 101 Fall 2020 Quiz 14
Exam time: 30 minutes
No calculators or other electronic devices.
Exam, Form: A

Name: _____

Student Number: _____

TA: _____

Date: _____

Section 1. Matching of scientific terms and concepts (4 pts.)

- | | |
|--------------------|---|
| _____ period | (a) an arbitrarily fixed date relative to which planetary or stellar measurements are expressed. |
| _____ anomaly | (b) arranged or existing for the present, possibly to be changed later |
| _____ provisional | (c) something that deviates from what is standard, normal, or expected |
| _____ isotropic | (d) having a physical property that has the same value when measured in different directions |
| _____ infer | (e) emitting light as a result of being heated |
| _____ incandescent | (f) standing out so as to be clearly visible |
| _____ epoch | (g) a length or portion of time |
| _____ conspicuous | (h) deduce or conclude (information) from evidence and reasoning rather than from explicit statements |

Section 2. Multiple choice (6 pts.)

1. If the mass of the earth and the moon were both doubled, and the distance between the earth and the moon was also doubled, then the gravitational force with which the earth pulls on the moon would
 - (a) be different than the force of the moon acting on the earth
 - (b) remain the same
 - (c) be doubled
 - (d) be tripled
 - (e) none of the above
2. The cepheid variable stars that Henrietta Leavitt observed in the Magellanic cloud had approximately the same
 - (a) average luminosity
 - (b) period of variability
 - (c) distance from the Earth
 - (d) Harvard number
 - (e) all of the above

3. The period of the variable stars Henrietta Leavitt observed in the Magellanic clouds
 - (a) increased with their brightness.
 - (b) decreased with their brightness.
 - (c) increased with their distance.
 - (d) decreased with their distance.
 - (e) were all the same.
4. An observer counts one thousand visible stars when surveying one-hundredth of the sky. She concludes that there must be one hundred thousand visible stars in the universe. This calculation assumes the validity of the
 - (a) principle of uniformity
 - (b) principle of relativity
 - (c) conservation of energy
 - (d) the anthropic principle
 - (e) all of the above
5. The speeds of various nebulae were first determined by Harlow Shapely by measuring their
 - (a) red shift
 - (b) luminosity
 - (c) mass
 - (d) distance
 - (e) temperature
6. If nebula $M1$ is three times as far away from the earth as nebula $M2$, then according to Hubble's law $M1$ is receding from the earth
 - (a) at the same speed as $M2$
 - (b) twice as fast as $M2$
 - (c) three times as fast as $M2$
 - (d) seventy times as fast as $M2$
 - (e) actually, $M1$ must be approaching the earth

Answer Key for Exam A

Section 1. Matching of scientific terms and concepts (4 pts.)

<u>(g)</u> period	(a) an arbitrarily fixed date relative to which planetary or stellar measurements are expressed.
<u>(c)</u> anomaly	(b) arranged or existing for the present, possibly to be changed later
<u>(b)</u> provisional	(c) something that deviates from what is standard, normal, or expected
<u>(d)</u> isotropic	(d) having a physical property that has the same value when measured in different directions
<u>(h)</u> infer	(e) emitting light as a result of being heated
<u>(e)</u> incandescent	(f) standing out so as to be clearly visible
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PHY 101 Fall 2020 Quiz 14
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Student Number: _____

TA: _____

Date: _____

Section 1. Matching of scientific terms and concepts (4 pts.)

- | | |
|--------------------|---|
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| _____ anomaly | (b) standing out so as to be clearly visible |
| _____ infer | (c) an arbitrarily fixed date relative to which planetary or stellar measurements are expressed. |
| _____ incandescent | (d) emitting light as a result of being heated |
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Answer Key for Exam B

Section 1. Matching of scientific terms and concepts (4 pts.)

- | | |
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| <u>(g)</u> anomaly | (b) standing out so as to be clearly visible |
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