This chapter has 54 questions.
Scroll down to see and select individual questions or narrow the list using the checkboxes below.

Select 0 questions at random and keep in order

- ☐ *Multiple Choice Questions* - (47)
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- ☐ Accessibility: Keyboard Navigation - (47)
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- ☐ Topic: General relativity - (6)
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- ☐ Type: Definition - (12)
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1. Which of the following is a postulate of special relativity?
   → ○ The laws of physics are the same for all observers in uniformly moving frames of reference.
   ○ Physicists can make no measurements in a moving reference frame.
   ○ The color of light is the same for all observers.
   ○ The relative speed of two objects is the same for all observers.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: The speed of light and Einstein's postulates
Type: Conceptual
Type: Definition

Multiple Choice Question
MC Which of the following is a postulate of spe...

2. At which of the following speeds would the effects predicted by special relativity be most obvious?
   ○ 1.11c
   → ○ 0.99c
   ○ 0.50c
   ○ 0.01c

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: The speed of light and Einstein's postulates
Type: Conceptual

Multiple Choice Question
MC At which of the following speeds would the e...

3. If the speed of light were infinite but the postulates of special relativity still held, then
   ○ any moving object would have infinite momentum.
   ○ time dilation would be obvious at low speeds.
   → ○ length contraction would not occur.
   ○ objects could have negative kinetic energy.

Select

Accessibility: Keyboard Navigation
Difficulty: Hard
Topic: Time dilation and length contraction
Type: Conceptual

Multiple Choice Question
MC If the speed of light were infinite but the ...

4. One of the strange consequences of special relativity is that
   ○ forces that are not real can be felt by some observers.
   ○ people moving at high speeds will feel crushed by length contraction.
   ○ time can move backward.
   → ○ two events may appear simultaneous to one observer but not another.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Time dilation and length contraction
Type: Conceptual

Multiple Choice Question
MC One of the strange consequences of special r...

5. Consider the list of physical properties below. According to special relativity, which ones are dependent on the observer speed?
   ○ Length
   ○ Energy
   ○ Time
   → ○ All of these

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Newton's laws and mass-energy equivalence
Type: Conceptual

Multiple Choice Question
MC Consider the list of physical properties bel...

6. A stationary observer views the approach of a spaceship moving at a relativistic speed. The observer knows the _____ of the spaceship, as it moves past, is less than if it were stationary with respect to her.
   ○ mass
   ○ height
   → ○ length
   ○ density

Select

Accessibility: Keyboard Navigation
Difficulty: Easy

Multiple Choice Question
MC A stationary observer views the approach of ...

Topic: Time dilation and length contraction
Type: Conceptual

7. According to the special theory of relativity, physical laws are the same in frames of reference which
   - ○ accelerate.
   - ○ move in circles.
   - ○ move in ellipses.
   - → ○ move at uniform velocity.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: The speed of light and Einstein's postulates
Multiple Choice Question
Type: Conceptual
MC According to the special theory of relativit...
Type: Definition

8. An object moving at a relativistic speed past a stationary observer appears to
   - ○ have length expanded and have a faster clock.
   - ○ have length contracted and have a faster clock.
   - ○ have length expanded and have a slower clock.
   - → ○ have length contracted and have a slower clock.
   - ○ be completely normal.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question
Topic: Time dilation and length contraction
MC An object moving at a relativistic speed pas...
Type: Conceptual

9. Clocks in a moving reference frame, compared to identical clocks in a stationary reference frame, appear to run
   - → ○ slower.
   - ○ at the same rate.
   - ○ faster.
   - ○ backward in time.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Time dilation and length contraction
MC Clocks in a moving reference frame, compared...
Type: Conceptual

10. A neutron passes by Earth at relativistic speed. Earth scientists observe the process of the neutron decaying into a proton, an electron, and a neutrino. Compared to the same type of process on Earth, earthbound observers would say that the process in the moving neutron
    - ○ appears to happen at the same rate.
    - → ○ appears to happen more slowly.
    - ○ appears to happen faster.
    - ○ No process in another reference frame can be observed.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Time dilation and length contraction
MC A neutron passes by Earth at relativistic sp...
Type: Conceptual

11. A spaceship, moving away from the Earth at a speed of 0.9c, fires a light beam backward. An observer on Earth would see the light arriving at a speed of
    - ○ 0.1c.
    - ○ more than 0.1c but less than c.
    - → ○ c.
    - ○ more than c but less than 1.9c.
    - ○ 1.9c.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: The speed of light and Einstein's postulates
MC A spaceship, moving away from the Earth at a...
Type: Conceptual

12. A spaceship moves over my driveway at a relativistic speed. I observe that my driveway is the same length as the ship. I then conclude that the rest length of my driveway is _____ the rest length of the spaceship.
    - ○ greater than
    - ○ the same as
    - → ○ less than

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Time dilation and length contraction
MC A spaceship moves over my driveway at a rela...
Type: Conceptual

13. The equation $E = mc^2$ means that
    - ○ mass is really a bundle of energy traveling at the speed of light.
    - ○ mass and energy when combined travel at the speed of light.
    - mass and energy when combined travel at twice the speed of light.

Select

○
○ energy is really mass traveling at the speed of light squared.
→ ○ energy and mass are different forms of the same thing.

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Newton's laws and mass-energy equivalence
Multiple Choice Question
Type: Conceptual
MC The equation E = mc2 means that
Type: Definition

14. One of the predictions of general relativity that was not predicted by special relativity is that
○ length decreases with speed.
○ time dilates with speed.
→ ○ space is curved near massive objects.
○ F = ma does not work for relativistic objects.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: General relativity
Multiple Choice Question
Type: Conceptual
MC One of the predictions of general relativity...
Type: Definition

15. Suppose Joe is at rest and Moe is moving at almost the speed of light. Due to length contraction, Joe sees Moe's starship as only five inches long. What does Moe notice about his own starship?
○ It is shorter but no fatter.
○ It is both shorter and fatter.
→ ○ It appears to be normal to him.
○ It is longer and more massive.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question
Topic: Time dilation and length contraction
MC Suppose Joe is at rest and Moe is moving at ...
Type: Conceptual

16. If you were to travel at a speed close to the speed of light, you would notice which of the following?
○ Your mass has increased.
○ Your iPod plays music more slowly—everyone sounds like a baritone!
○ Your pulse rate has decreased.
○ You would notice all of these effects.
→ ○ You would notice none of these effects because you are in an inertial frame.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Newton's laws and mass-energy equivalence
MC If you were to travel at a speed close to th...
Type: Conceptual

17. Starship "Alpha" is traveling at 0.6c ($\gamma = 5/4$) with respect to the identical starship "Beta." Each starship has rest length 10,000 m. A cook aboard the "Beta" measures the time the "Alpha" requires to pass by his window. What result should he get?
○ About 6 microseconds
○ About 25 microseconds
○ About 33 microseconds
→ ○ About 44 microseconds
○ About 70 microseconds

Select

Accessibility: Keyboard Navigation
Difficulty: Hard
Multiple Choice Question
Topic: Time dilation and length contraction
MC Starship Alpha is traveling at 0.8c (g = 5...
Type: Numerical

18. Starship "Alpha" travels at 0.9c past an identical starship "Beta," which is at rest. Both a cabin boy on the "Alpha" and a cook on the "Beta" measure the time required for the other ship to pass by their respective windows. Who measures the longer time?
○ The cabin boy
○ The cook
→ ○ Both measure the same time.
○ The measured times cannot be compared.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Time dilation and length contraction
MC Starship Alpha travels at 0.8c past an ide...
Type: Conceptual

19. The term "relativistic" refers to effects that are
→ ○ observed when speeds are near the speed of light.
○ noticed about a moving object.
○ observed when objects move backward in time.
○ measured by stationary observers only.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: The speed of light and Einstein's postulates
Multiple Choice Question
Type: Conceptual
MC The term relativistic refers to effects th...
Type: Definition

20. Einstein's special relativity is based upon two postulates. The most radical of the two postulates states that

- ○ the speed of light is finite.
- ○ the classical velocity addition formula still holds at relativistic speeds.
- → ○ the speed of light is the same for all observers in all inertial reference frames.
- ○ there is no ether surrounding the Earth.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: The speed of light and Einstein's postulates
Multiple Choice Question
Type: Conceptual
MC Einstein's special relativity is based upon...
Type: Definition

21. A difference between the special and general theories of relativity is that

- ○ special relativity deals with accelerated systems.
- → ○ general relativity deals with accelerated systems.
- ○ special relativity is valid only in stationary reference frames.
- ○ general relativity only deals with swiftly moving objects.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: General relativity
Multiple Choice Question
Type: Conceptual
MC A difference between the special and general...
Type: Definition

22. An airplane travels from east to west with a velocity 450 mi/hr relative to the Earth. At the same time the wind is blowing from west to east at 50 mi/hr. What is the speed of the plane with respect to the air?

- → ○ 500 mi/hr
- ○ More than 450 mi/hr but less than 500 mi/hr
- ○ 450 mi/hr
- ○ More than 400 mi/hr but less than 450 mi/hr
- ○ 400 mi/hr

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Relative motion in classical physics
MC An airplane travels from east to west with a...
Type: Numerical

23. The purpose of the Michelson-Morley experiment was to

- ○ determine the velocity of light.
- ○ detect possible motion of the Earth relative to the sun.
- ○ detect possible motion of the sun relative to the ether.
- → ○ detect possible motion of the Earth relative to the ether.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: The speed of light and Einstein's postulates
Multiple Choice Question
Type: Conceptual
MC The purpose of the Michelson-Morley experime...
Type: Definition

24. A spaceship approaches the Moon, traveling at 0.5c with respect to the Moon. Its crew shines a laser at the Moon. The beam strikes a lunar mirror and is reflected back to the ship. The crew on the ship will measure the speed of the reflected beam to be

- ○ 2.0c.
- ○ 1.5c.
- → ○ c.
- ○ 0.75c.
- ○ 0.5c.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: The speed of light and Einstein's postulates
MC A spaceship approaches the Moon, traveling a...
Type: Conceptual

25. Suppose Spider-Man throws a web that is 1.00 m long with a velocity of 0.8c ($\gamma = 5/3$) with respect to the Earth. What will be the length of web as observed by J. Jonah Jameson standing on the Earth?

- ○ 1.67 m
- ○ 1.33 m
- ○ 1.00 m
- ○ 0.80 m
- → ○ 0.60 m

Select

Multiple Choice Question
MC Suppose Spider-Man throws a web that is 1.00...

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Time dilation and length contraction
Type: Numerical

26. One of two identical twins becomes an astronaut, while the other becomes a real estate broker. The astronaut embarks on high-speed space travel and is gone for several years. Upon the astronaut's return, the two twins reunite and compare their physical appearances. The result will be that

Select

- ○ the real estate broker has aged less.
- → ○ the astronaut has aged less.
- ○ both have aged the same.

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Time dilation and length contraction
Type: Conceptual

Multiple Choice Question
MC One of two identical twins becomes an astron...

27. If one could measure the exact mass of a biscuit while hot and then compare it to the exact mass of the biscuit when cold, the result would be

Select

- → ○ the mass of the hot biscuit is slightly greater.
- ○ the mass of the biscuit is exactly the same in both cases.
- ○ the mass of the cold biscuit is slightly greater.

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Newton's laws and mass-energy equivalence
Type: Conceptual

Multiple Choice Question
MC If one could measure the exact mass of a bis...

28. The Flash, a comic superhero, is able to run close to the speed of light. Two people, with synchronized watches, stand several kilometers apart and time the Flash as he runs a straight course. The Flash has his own stopwatch and uses it to independently time his run. The Flash also observes the speed at which the finish line moves toward him, and upon finishing his run he calculates the length of the course by multiplying this speed by the time on his stopwatch. Who measures (I) the Flash's proper time for the race, and who measures (II) the rest or proper length for the race?

- ○ Both the Flash and the two people measure (I) and (II).
- ○ Neither the Flash nor the two people measure (I) or (II).

Select

- → ○ The Flash measures (I) but the two people measure (II).
- ○ The two people measure (I) and Flash measures (II).
- ○ Only the Flash measures both (I) and (II).

Accessibility: Keyboard Navigation
Difficulty: Medium
Topic: Time dilation and length contraction
Type: Conceptual

Multiple Choice Question
MC The Flash, a comic superhero, is able to run...

29. Two identical clocks are made. One is placed on the surface of a massive planet, and the other is placed in interstellar space. Which runs faster?

- ○ Both clocks will run at the same rate.
- ○ The planet clock

Select

- → ○ The space clock

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Newton's laws and mass-energy equivalence
Type: Conceptual

Multiple Choice Question
MC Two identical clocks are made. One is placed...

30. Two identical atomic clocks are made. One is placed in the foothills of the Rocky Mountains at the NIST in Boulder, Colorado, about one mile above the sea level, and the second is flown in a GPS satellite around Earth at about 17,000 mph. Which clock gets ahead of the other?

- → ○ The clock in orbit
- ○ Both clocks run at the same rate.

Select

- ○ The Boulder clock

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Time dilation and length contraction
Type: Conceptual

Multiple Choice Question
MC Two identical atomic clocks are made. One is...

31. A student calculates the momentum of a body moving at a relativistic speed by multiplying the rest mass by the velocity. This gives a result for the momentum that is

- ○ too large.
- ○ correct.

Select

- → ○ too small.

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: Newton's laws and mass-energy equivalence
Type: Conceptual

Multiple Choice Question
MC A student calculates the momentum of a fast-...

Select

32. A train has a rest length of 100 m. Traveling at a very high velocity, it goes through a tunnel of length 80 m. Observers located at both ends of the tunnel note that at one instant the train appears to exactly fit within the tunnel. What is the velocity of the train expressed in units of c?

○ 0.333c
○ 0.50c
→ ○ 0.60c
○ 0.80c
○ 0.866c

Accessibility: Keyboard Navigation
Difficulty: Hard
Multiple Choice Question
Topic: Time dilation and length contraction
MC A train has a rest length of 100 m. Travelin...
Type: Numerical

33. Starship "Alpha" is traveling at 0.8c ($\gamma = 5/3$) with respect to the identical starship "Beta." Each starship has rest length 10,000 m. The ship's engineer aboard the "Beta" measures the length of the "Alpha" as it passes by his window. What result should he get?

→ ○ 6,000 m
○ 8,000 m
○ 10,000 m
Select ○ 12,500 m
○ 16,667 m

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Time dilation and length contraction
MC Starship Alpha is traveling at 0.8c (g = 5...
Type: Numerical

34. A starship "Alpha" travels at 0.8c past an identical starship, "Beta," which is at rest. Both an engineer on the "Alpha" and a scientist on the "Beta" measure the length of the other ship as it passes by. Who measures the longer length?

○ The engineer
○ The scientist
→ ○ Both measure the same length.
Select ○ The measured lengths cannot be compared.

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Time dilation and length contraction
MC A starship Alpha travels at 0.8c past an i...
Type: Conceptual

35. According to the postulates of special relativity

○ it is impossible for an object to move faster than the medium it is moving through.
→ ○ the speed of light as measured by a stationary observer is the same as the speed of light measured by someone moving toward the light.
○ light can move faster when it moves with the luminiferous ether.
Select ○ Newton's laws do not apply for objects moving at high speeds.

Accessibility: Keyboard Navigation
Difficulty: Easy
Topic: The speed of light and Einstein's postulates
Multiple Choice Question
Type: Conceptual
MC According to the postulates of special relat...
Type: Definition

36. An inertial force can be felt by observers

○ at rest in any medium.
○ moving much more slowly than the speed of light.
○ in a vacuum.
Select → ○ whose reference frame moves in a circle.

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: Relative motion in classical physics
MC An inertial force can be felt by observers
Type: Conceptual

37. The most important conclusion to be drawn from the Michelson-Morley experiment is that

○ the speed of light is influenced by the direction of motion.
○ the Earth is not an inertial reference frame.
→ ○ light does not travel through a luminiferous ether.
Select ○ the Earth's orbital speed around the Sun is constant.

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
Topic: The speed of light and Einstein's postulates
MC The most important conclusion to be drawn fr...
Type: Conceptual

Select 38. Einstein performed thought experiments to understand the implications of the postulates of special relativity because

→ ○ the speeds involved are too large to easily generate.
○ did not know how to build an apparatus that would test his ideas.
○ he could not carry out the experiments alone and no other scientists would work with him.
○ he was too poor to afford the necessary experimental apparatus.

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question — Topic: The speed of light and Einstein's postulates
MC Einstein performed thought experiments to un... — Type: Conceptual

39. Light takes 4.3 years to travel from Alpha Centauri (the star closest to the Sun) to the Earth. If a spaceship traveling near the speed of light were to make the same trip, the time to travel this distance as measured by the astronauts would be
   - ○ longer than the lifespan of a human being.
   - → ○ less than 4.3 years.
   - ○ 4.3 years.
   - ○ a little more than 4.3 years.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question — Topic: Time dilation and length contraction
MC Light takes 4.3 years to travel from Alpha C... — Type: Conceptual

40. An object with a nonzero rest mass moving at the speed of light would have
   - ○ no momentum.
   - ○ time pass at an infinitely fast rate.
   - ○ infinite volume.
   - → ○ infinite apparent mass.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question — Topic: Newton's laws and mass-energy equivalence
MC An object with a nonzero rest mass moving at... — Type: Conceptual

41. An object that appears green in empty space is placed near but not in a black hole. To an observer far from the black hole, the object would appear
   - → ○ red.
   - ○ green.
   - ○ blue.
   - ○ brown.
   - ○ black.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question — Topic: Time dilation and length contraction
MC An object that appears green in empty space ... — Type: Conceptual

42. In an observation made in 1919 demonstrating the deflection of starlight due to gravity, light rays moving near _____ bent to a slightly different angle.
   - ○ a laser with the same frequency of light
   - → ○ the Sun
   - ○ the Moon
   - ○ the Earth at its equator

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question — Topic: General relativity
MC Light rays moving near _____ bend to a... — Type: Conceptual

43. A spaceship, moving toward the Earth at a speed of 0.9c, shines a green laser at Earth. An observer on Earth would see the light arriving at a speed of
   - ○ c but at a smaller frequency.
   - → ○ c but at a shorter wavelength.
   - ○ 1.9c and with a shorter wavelength.
   - ○ more than c but less than 1.9c.
   - ○ 0.1c and with an inverted frequency.

Select

Accessibility: Keyboard Navigation
Difficulty: Medium
Multiple Choice Question — Topic: Time dilation and length contraction
MC A spaceship, moving toward the Earth at a sp... — Type: Conceptual

Select

44. A spaceship, moving away from the Earth at a speed of 0.9c, shines a green laser backwards at Earth. An observer on Earth would see the light arriving at a speed of
   - ○ 0.1c and with an inverted frequency.
   - ○ more than c but less than 1.9c.
   - ○ c but at a shorter wavelength.
   - → ○ c but at a smaller frequency.
   - ○ 1.9c and with a shorter wavelength.

Multiple Choice Question — Accessibility: Keyboard Navigation
MC A spaceship, moving away from the Earth at a... — Difficulty: Medium

Topic: Time dilation and length contraction
Type: Conceptual

45. A radar signal bounces off your car and back to the antenna of a policeman's radar gun, checking for speeders. The radar gun can tell your speed of approach by "listening" for and measuring
    - → ○ a reflected signal at a higher frequency.
    - ○ a reflected signal at a lower frequency.
    - ○ a reflected signal at the same frequency but polarized.
    - ○ a reflected signal with zero frequency.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
MC A radar signal bounces off your car and back...
Topic: Time dilation and length contraction
Type: Conceptual

46. Black holes cannot be observed directly, because they emit no light. However, a scientist can hunt for black holes because
    - ○ a black hole will reflect light.
    - ○ a black hole can still emit electrons.
    - → ○ black holes can gravitationally influence the orbits of nearby stars, and those stars can be observed.
    - ○ magnetic fields cause an emanation of thermal energy in the form of high-speed protons.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
MC Black holes cannot be observed directly, bec...
Topic: General relativity
Type: Conceptual

47. The proper time interval between two events is measured from the frame of reference of an observer present at both events. Therefore, the proper time measurement of the decay of a neutron is measured by
    - ○ an observer in the national lab at Los Alamos or any other certified nuclear lab.
    - ○ an observer at the speed of light, relative to the neutron.
    - ○ an observer who is emitting light at all frequencies.
    - → ○ an imaginary observer riding along with the neutron.

Select

Accessibility: Keyboard Navigation
Difficulty: Easy
Multiple Choice Question
MC The proper time interval between two events ...
Topic: Time dilation and length contraction
Type: Conceptual

48. The result of the Michelson-Morley experiment supports Einstein's _____ postulate for the theory of relativity.
    second

Select

Difficulty: Easy
Fill-in-the-Blank Question
FB The result of the Michelson-Morley experimen...
Topic: The speed of light and Einstein's postulates
Type: Conceptual

49. The decay of a sample of radioactive atoms is studied by observers moving in different ways. One moves at 0.8c, another at 0.5c, another at 0.25c, and one at speed zero with respect to the sample. The one with a speed of _____ will measure the shortest half-life.
    zero

Select

Difficulty: Medium
Fill-in-the-Blank Question
FB The decay of a sample of radioactive atoms i...
Topic: Time dilation and length contraction
Type: Conceptual

50. An inertial frame is one moving with _____ (two words) with respect to the "fixed stars", i.e., with respect to the average position of all matter in the universe.
    constant velocity

Select

Difficulty: Easy
Topic: Relative motion in classical physics
Fill-in-the-Blank Question
FB An inertial frame is one moving with _____...
Type: Conceptual
Type: Definition

51. Adding heat to a body will _____ the mass of the body.
    increase

Select

Difficulty: Easy
Fill-in-the-Blank Question
FB Adding heat from a body will _____ th...
Topic: Newton's laws and mass-energy equivalence
Type: Conceptual

52. A black hole consists of a large _____ in a small space.
    mass

Select

Difficulty: Easy
Topic: General relativity
Fill-in-the-Blank Question
FB A black hole consists of a large _____...
Type: Conceptual
Type: Definition

Select

53. Observers in accelerating frames of reference can experience _____ forces which would not be felt in non-accelerating frames.
    inertial

Fill-in-the-Blank Question
FB Observers in accelerating frames of referenc...

Difficulty: Easy
Topic: Relative motion in classical physics
Type: Conceptual

54. According to general relativity, it is impossible to distinguish between an accelerated frame of reference and _____.

the effects of gravity

Select

Difficulty: Easy
Topic: General relativity
Type: Conceptual

Fill-in-the-Blank Question
FB According to general relativity, it is impos...

Type: Definition