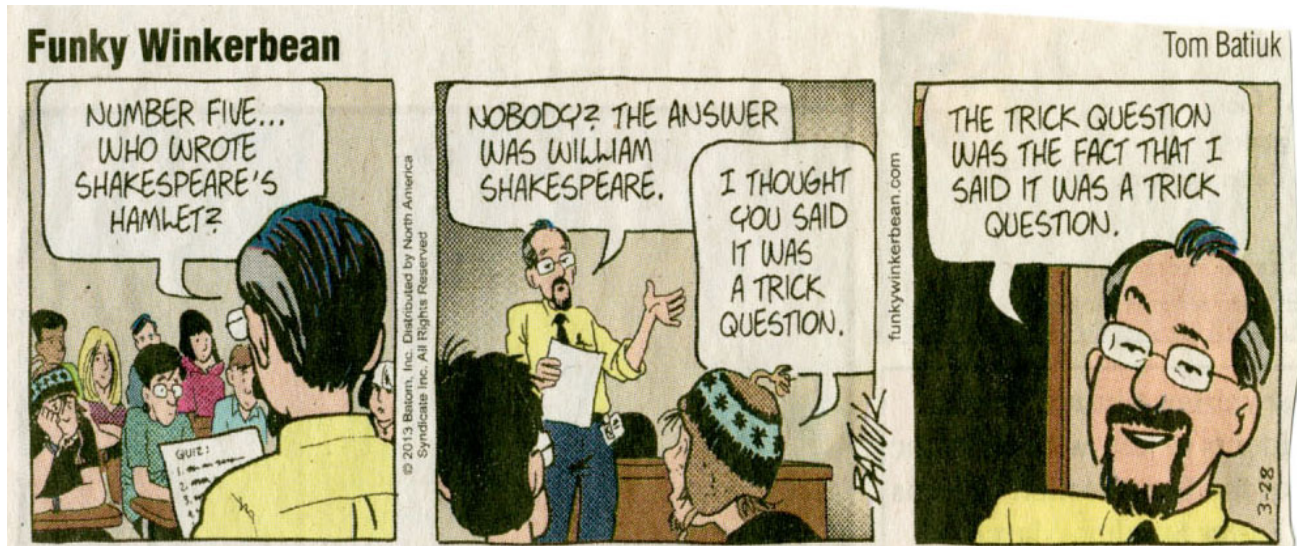


40 Multiple Choice Questions – Select the **best** answer for each one.



New Questions

1. U.S. energy use declined from 2008 to 2012 because
 - A. natural gas replaced coal in many power plants
 - B. industry became much more efficient
 - C. the great recession reduced many energy-dependant activities
 - D. all of the above
2. Which of the following has never been the primary fuel in the U.S.?
 - A. wood
 - B. coal
 - C. petroleum and natural gas
 - D. nuclear
3. The primary cause of acid rain in the U.S. is
 - A. automobile emissions
 - B. coal-fired power plants
 - C. industrial and utility emissions in the Eastern U.S.
 - D. all of the above
4. "Clean coal" is
 - A. technically possible
 - B. reasonably inexpensive
 - C. the ultimate solution to greenhouse gas emissions
 - D. all of the above

5. The main reason few nuclear power plants have been built in the past 30 years is

- A. initial cost
- B. safety concerns
- C. lack of disposal sites for spent fuel
- D. microclimatic effects

6. The biggest “wedge” in schemes for reducing greenhouse gas emissions by 80% by 2030 is

- A. energy efficiency
- B. wind power
- C. solar power
- D. geothermal energy

7. Hydrogen fuel cells

- A. generate electricity
- B. generate heat and water
- C. produce no greenhouse gasses
- D. all of the above

8. If you know a sound’s frequency, you also know its

- A. wave length
- B. intensity
- C. reverberation time
- D. all of the above

9. In a free field, when you double the distance from a line source of sound,

- A. intensity is halved
- B. intensity is reduced by 3dB
- C. intensity is reduced by 6dB
- D. none of the above

10. To effectively mask noise, a source of white noise needs to be

- A. 70 dB or more
- B. no more than 3 dB less than the noise
- C. more intense than the noise
- D. very ear-pleasing

11. The most effective way to protect a single-family residence from street noise is to

- A. plant street trees between the sidewalk and street
- B. build a berm halfway between street and house
- C. build a tall solid wall near the house
- D. all of the above are equally effective



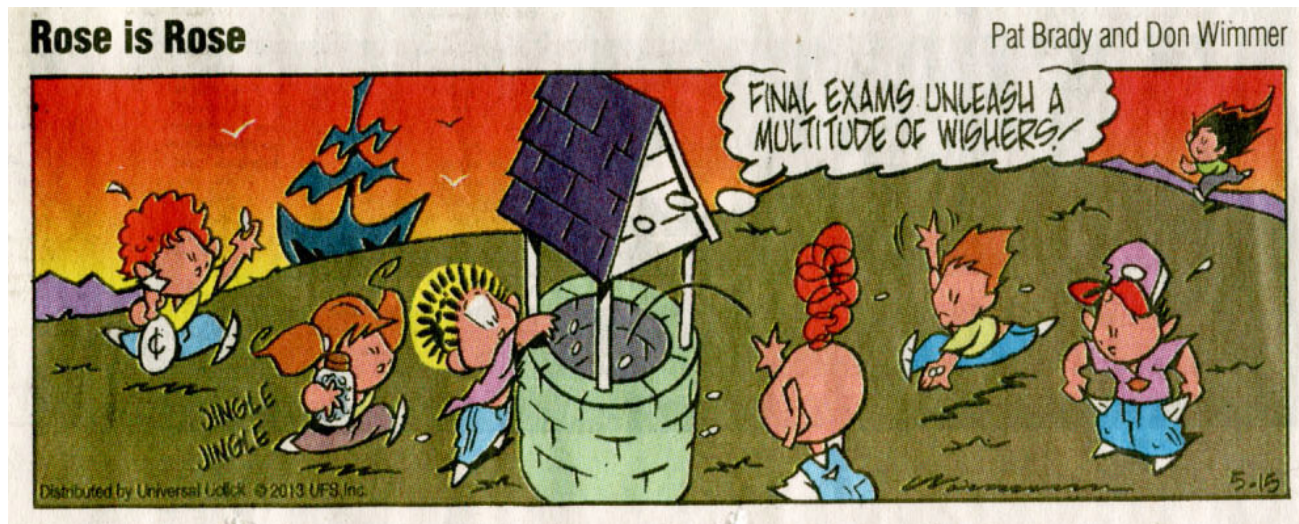
12. Seattle's Freeway Park successfully mitigates the sounds of high-speed traffic through
- A. a solid concrete barrier
 - B. a fountain that provides masking sound
 - C. absorption by soil and plant materials
 - D. all of the above
13. The acoustic goal of silence should be achieved in
- A. a library
 - B. a symphony hall
 - C. a swim center
 - D. all of the above
14. Acoustic isolation from a structure-borne noise cannot be accomplished for
- A. a specific piece of machinery
 - B. an entire room
 - C. both of the above are possible
 - D. none of the above are possible
15. Reverberation time of a room can be increased by
- A. increasing total absorption
 - B. increasing room volume
 - C. adding diffusely reflective acoustic panels
 - D. all of the above
16. Impulse response diagrams give a visual indication of
- A. reverberation time
 - B. smoothness of sound decay
 - C. gaps in the arrival of reflected sounds
 - D. all of the above
17. Multipurpose halls are difficult to design mainly because different uses require
- A. different room volumes
 - B. different color seats
 - C. different reverberation times
 - D. different loudnesses
18. Acoustic clouds like those used in the Royal Albert Hall in London
- A. provide diffuse reflection of sound
 - B. help absorb excess sound
 - C. only provide feedback to the performers
 - D. reduce the reverberation time



19. Acoustic modeling includes
- A. auralization
 - B. physical scale models
 - C. simple ray tracing
 - D. all of the above
20. Carnegie Hall in NYC is a wide hall, so the worst seat acoustically is
- A. front row center
 - B. in one of the shallow side balconies
 - C. the last row of one of the deep balconies
 - D. all the seats in Carnegie Hall are excellent

Review Questions

21. Translucent glazing
- A. gives diffuse light
 - B. can transmit direct solar heat gain
 - C. may cause a glare problem when in direct sun
 - D. all of the above
22. If a line source of light gives 20 foot candles at 10 feet, at 20 feet it will give
- A. 20 foot candles
 - B. 10 foot candles
 - C. 5 foot candles
 - D. 2 foot candles
23. Horizontal skylights are effective for daylighting if
- A. they have external shading devices
 - B. they have deep light wells to exclude direct sun
 - C. they have interior baffles for solar control
 - D. all of the above



24. The hand calculation method for predicting daylight levels that gives the best representation of light distribution is

- A. the Graphic Daylight Design Method
- B. the LBL nomograph
- C. the BRS protractor method
- D. all of the above

25. A major advantage of computer models over hand calculation methods for daylight prediction is

- A. more accuracy
- B. visualization of light in the space
- C. contours of light distribution in space
- D. all of the above

26. The daylighted artificial sky being tested in AAS third floor will be useful in daylighting model testing because it

- A. reproduces the exact illumination of a cloudy sky
- B. models the distribution of light for a standard cloudy sky
- C. reproduces the light quality of a cloudy sky
- D. has a skylight that simulates direct sun

27. LED lamps advantage over CFL lamps currently is

- A. much greater efficacy
- B. much greater lamp life expectancy
- C. much better color rendering
- D. all of the above

28. The most effective type of fixture to integrate with daylighting is

- A. direct
- B. direct/indirect
- C. indirect
- D. all of the above

29. If the point source method determines that a source A, 12 feet away, will contribute 32fc to a surface and a source B, 24 feet away, will contribute 16fc, you are confident that

- A. source A is brighter
- B. the surface receives at least 48fc
- C. the surface receives on the average 24fc
- D. exactly 48fc illuminate the surface

30. Composting toilets are similar to waterless urinals in that

- A. they use biological treatment of waste
- B. they produce no waste water
- C. they require no special maintenance
- D. none of the above



31. Constructed wetlands, like those at Arcata, California,
- A. can treat water to potability
 - B. are less expensive than a city-scale living machine
 - C. are less expensive than conventional waste treatment plant
 - D. all of the above
32. A fixture that does not exceed code requirements for water conservation is
- A. a waterless urinal
 - B. a composting toilet
 - C. a low-flush toilet
 - D. all of the above exceed code
33. The source that causes the least pollution of Paradise Creek in Latah County is
- A. Moscow Wastewater Treatment Plant
 - B. the agricultural lands
 - C. urban Moscow
 - D. the UI/Moscow/PCEI creek restoration projects
34. Since 1985 the U.S. solid waste recycling
- A. has increased in percentage every year
 - B. has increased in total tonnage every year
 - C. has mimicked pre-1985 performance
 - D. demonstrates that 30% is a reasonable maximum recycling goal
35. A score of zero on the SBSE revision of Malcolm Wells checklist indicates
- A. a seriously degenerative building
 - B. a building without environmental merit
 - C. a sustainable building
 - D. a regenerative building
36. Globally, January 2014 was rated by NOAA as
- A. the coldest ever due to the arctic trough over the Midwestern U.S. and Canada
 - B. the warmest January ever measured
 - C. a bit cooler than normal
 - D. a bit warmer than normal
37. The Living Building Challenge standards exceed those of
- A. LEED Platinum
 - B. restorative design
 - C. regenerative design
 - D. all of the above
38. In order to help mitigate global warming, buildings must be designed to
- A. greatly reduce carbon emissions
 - B. be sustainable
 - C. be self-sufficient
 - D. be LEED Platinum

The Honest Professor



Karter Krasselt | Argonaut

39. Low life cycle cost for a building indicates
- A. the lowest first cost
 - B. consideration of rising energy scarcity
 - C. consideration of the social and environmental costs of the building
 - D. none of the above
40. The most viable source of site-generated electricity in a suburban setting is
- A. vertical axis wind turbines
 - B. roof-top photovoltaic arrays
 - C. geothermal energy
 - D. all of the above

Catch some rays, catch some Zzzzzzzzzzzs!
Come back with new energy next fall!