Fluids Conceptual Quiz

This is a preview of the draft version of the quiz

Started: Nov 4 at 9:24am

Quiz Instructions

Question 1

1 pts

Which of the following are characteristics of fluids studied in AP Physics 2?

Choose all that apply.

- [ ] friction between molecules
- [ ] idealized
- [ ] incompressible
- [ ] compressible
- [ ] realistic
- [ ] frictionless

Question 2

1 pts

When fluids flow we refer to the situation as _____.

- static
- dynamic

Question 3

1 pts

When fluids are not moving or stationary we refer to the situation as _____.

- dynamic
- static

Question 4

1 pts

Pressure at any point in a fluid is caused by the weight of the column of fluid above that point, plus the pressure acting on the surface of that column of fluid.

- True
- False

Question 5 — 1 pts

Gauge pressure is the difference between measured pressure and a vacuum.

- True
- False

Question 6 — 1 pts

Absolute pressure is the difference between the measured pressure and atmospheric pressure.

- True
- False

Question 7 — 1 pts

His principle states that the buoyant force on a submerged object is based upon the weight of the displaced fluid.

- Newton
- Maxwell

- Pascal
- Hooke
- Archimedes
- Faraday
- Lenz

Question 8

1 pts

His principle states that any increase in pressure on the surface of a fluid creates an equal and undiminished increase in pressure in all points throughout a fluid.

- Archimedes
- Maxwell
- Faraday
- Newton
- Hooke
- Pascal
- Lenz

Question 9

1 pts

The conservation of mass leads us to the _____ equation.

- Pressure
- Buoyancy Force
- Density
- Bernoulli's
- Continuity

Question 10

1 pts

This equation is needed to determine the speed of a fluid moving through a pipe of changing cross-sectional area.

- Buoyancy Force
- Continuity
- Bernoulli's
- Pressure
- Density

Question 11

1 pts

The conservation of energy leads us to _____ equation.

- Bernoulli's
- Continuity
- Archimedes
- Buoyancy Force
- Pascal's

Question 12

1 pts

This equation relates velocity, pressure, and the height of a flowing fluid from one point in a fluid flow to another.

- Density
- Continuity Equations
- Bernoulli's
- Buoyancy Force

Question 13

1 pts

Gases have a small density, thus the gravitational effect on a gas is _____ when compared to a liquid.

- larger
- smaller
- the same

Question 14

1 pts

Molecules in a fluid vibrate due to _____ energy.

- gravitational potential
- elastic potential
- thermal

Question 15

1 pts

Which of the following can be classified as a fluid?

Choose all that apply.

- [ ] gases
- [ ] plasmas
- [ ] solids
- [ ] liquids

Question 16

1 pts

When molecules collide with the wall of a container, any parallel forces with the wall _____.

- ○ cancel out
- ○ impart an impulse
- ○ double
- ○ increase
- ○ decrease

Question 17

1 pts

When molecules collide with the wall of a container, any perpendicular forces with the wall _____.

- increase
- double
- cancel out
- decrease
- impart an impulse

Question 18

1 pts

Forces caused by fluid pressure will always be _____ to the surface the fluid is in contact with.

- diagonal
- parallel
- perpendicular
- random

Question 19

1 pts

The hotter the fluid, the _____ the vibrations of the molecules within it.

- slower

- faster

Question 20

1 pts

Stationary liquids are _____ , which means the forces all must be canceling out.

- flowing at a slow rate
- flowing at a fast rate
- in equilibrium

Question 21

1 pts

Molecular collisions and gravitational forces create _____ pressure as depth increases.

- the same
- less
- more

Question 22

1 pts

_____ is mass per unit volume and is measured in either kg/m^3 or g/cm^3.

- pressure
- temperature
- density
- energy
- buoyancy

Question 23

1 pts

_____ is force per unit area and is often measured in pascals (PA) or N/m^2.

- energy
- pressure
- net force
- density
- buoyancy

Question 24

1 pts

1 atm is equal to _____Pa.

- 1000
- 10000
- 10
- 1
- 100
- 100000

Question 25

1 pts

Pressure is the same along any horizontal line drawn through a _____ connected fluid.

- stationary
- dynamic

Question 26

1 pts

Generally, where flow is faster, pressure is _____.

- lower
- higher
- the same as where flow is slower

Question 27

1 pts

Why do things float? Choose all that apply.

- pressure in a fluid increases with depth
- the material that makes up the floating object is lighter than water
- the bottom of the object is deeper than the top
- the pressure on the sides are identical and cancel each other out
- upward pressure on the bottom of the object is greater than the pressure on the top

Question 28

1 pts

The volume of an object floating is always equal to the volume of the displaced fluid.

- True
- False

Question 29 — 1 pts

The volume of the submerged portion of a floating object is equal to the volume of the displaced fluid.

- True
- False

Question 30 — 1 pts

The volume flow rate is equal at all points within an isolated stream of fluid. Or in other words, any volume of fluid that enters a pipe must eject an equal volume of fluid from the other end.

- True
- False

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