

Name: \_\_\_\_\_

Period: \_\_\_\_\_

M.T.H.S. - Auto Tech  
Mr. S. Carlson

Date: \_\_\_\_\_

### ***AUTOMOTIVE PHYSICS AIR DENSITY ACTIVITY SHEET***

**Directions:** Put your best one-word answer in the space to the left of the question.

- \_\_\_\_\_ 1. What is atmospheric pressure in p.s.i. at sea level?
- \_\_\_\_\_ 2. What is the maximum height water can be "sucked" up a straw at sea level?
- \_\_\_\_\_ 3. What does a mercury barometer read at sea level?
- \_\_\_\_\_ 4. What direction does it go in good weather?
- \_\_\_\_\_ 5. What direction does it go in bad weather?
- \_\_\_\_\_ 6. As altitude increases what does atmospheric pressure do?
- \_\_\_\_\_ 7. What is the unit of measurement on a vacuum gauge?
- \_\_\_\_\_ 8. What is the maximum number on a vacuum gauge scale?
- \_\_\_\_\_ 9. Which direction does it go on deceleration?
- \_\_\_\_\_ 10. Which direction does it go in full power?
- \_\_\_\_\_ 11. What is atmospheric pressure in p.s.i. if the barometer reads 26 inches of Hg?
- \_\_\_\_\_ 12. Pressure   (#12)   causes air to enter an engine?
- \_\_\_\_\_ 13. What would a vacuum gauge read in outerspace?
- \_\_\_\_\_ 14. What would a mercury barometer read in outer space?
- \_\_\_\_\_ 15. As altitude increases what does the boiling point of water do?
- \_\_\_\_\_ 16. As altitude increases what does the air density do?
- \_\_\_\_\_ 17. As atmospheric pressure decreases what does air density do?
- \_\_\_\_\_ 18. On a hot day what does a bridge do?
- \_\_\_\_\_ 19. As air temperature increases what does air density do?
- \_\_\_\_\_ 20. What would a helium balloon do as it increases altitude?
- \_\_\_\_\_ 21. As water vapor is added to air ,what does air density do?
- \_\_\_\_\_ 22. To get max. power, how do we want atmospheric pressure?
- \_\_\_\_\_ 23. To get max. power, how do we want air temperature?
- \_\_\_\_\_ 24. To get max. power, how do we want humidity?
- \_\_\_\_\_ 25. To get max. power, how do we want air density?
- \_\_\_\_\_ 26. As altitude increases does the engine run richer or leaner?
- \_\_\_\_\_ 27. As altitude decreases, what does volumetric efficiency of engine do?
- \_\_\_\_\_ 28. Does a vacuum cleaner work best in Seattle or Denver?
- \_\_\_\_\_ 29. Which valve is larger intake or exhaust?
- \_\_\_\_\_ 30. A barometer can be used to measure   (#30)   in an airplane?
- \_\_\_\_\_ 31. What is atmospheric pressure in p.s.i. in intake if hooked up vacuum gauge reads  
24 inches of Hg and the barometer reads 30 inches of Hg?
- \_\_\_\_\_ 32. What does the barometer read if there is 2 p.s.i. atmospheric pressure in the intake and  
a vacuum gauge reads 22 inches of Hg?