

1. The relationship of which two variables are compared in Charles's Law?
 - a) pressure & volume
 - b) volume & temperature
 - c) temperature & pressure
 - d) volume & moles (amount of gas)

2. Volume and temperature have a _____ proportionality.
 - a) direct
 - b) inverse
 - c) linear
 - d) exponential

3. Which two variables must be held constant for Charles's Law to apply?
 - a) pressure & volume
 - b) volume & temperature
 - c) pressure & moles (amount of gas)
 - d) volume & moles (amount of gas)

4. Julian and Jimmy are playing basketball outside in 82°C weather. If they leave the ball outside and temperature drops down to 53°C, what will happen to the volume of the gas in the ball if the pressure remains constant?
 - a) volume will remain the same
 - b) volume will increase
 - c) volume will decrease
 - d) volume will double in size

5. At constant pressure, what happens to temperature of a gas when the volume doubles?
 - a) The temperature also doubles.
 - b) The temperature decreases to half of its original volume.
 - c) The temperature doesn't change.
 - d) The temperature quadruples.

6. What is the formula Charles' Law?
 - a) $V = T$
 - b) $VT = VT$
 - c) $T_i / V_i = T_f / V_f$
 - d) $V_i / T_i = V_f / T_f$

7. How is volume measured?

- a) Kpa
- b) mmHg
- c) L
- d) C

8. Which of the following phenomena best illustrates Charles' Law?

- a) carbon dioxide being dissolved in water
- b) expansion of the balloon as it is being submerged in hot water
- c) breathing apparatus being used by a patient
- d) leavening agent causing the fluffiness of cake products

9. Records show that the incident of tire explosion is high during summer season. Which of the following gives the best explanation for this observation?

- a) there are more travellers during summer vacation
- b) high temperature during summer season causes the air inside the tire to expand
- c) vehicles' tires are not well maintained
- d) there is too much air inside the tires

10. A balloon with a volume of 200 mL at 30 °C is submerged in hot water to obtain a temperature of 50 °C. What will happen to the volume of the balloon if the pressure remains the same?

- a) the volume of the balloon will become higher than 200 mL
- b) the volume of the balloon will become lower than 200 mL
- c) the volume of the balloon will stay the same
- d) there is not enough data

11. A balloon is placed inside a freezer causing its temperature to reduce to 50%. What happened to its volume?

- a) Its volume is reduced to 50%
- b) Its volume is reduced to 25%
- c) Its volume is increased by 50%
- d) Its volume is increased by 25%

12.



If a balloon is cooled what will happen to the volume?

- a) Volume will increase
- b) Volume will decrease
- c) Volume will not change