

3.4 Worksheet

Name _____

1. Convert 3 atm into kPa.
2. Convert 1255584 Pa into atm.
3. What is the formula for area?
4. A piece of wood that is 3 meters long and 2 meters wide, is sitting on the floor. How much pressure is the piece of wood exerting on the floor if the piece of wood exerts a force of 149 N onto the floor?
5. Convert 456 kPa in to atm.
6. What is the pressure at sea level? (In kPa and atm)
7. You are walking along the Atlantic Ocean beach on a 98°C day when you find a balloon with a volume of 5.66 L. If you hold the balloon until night (where the temperature drops to 52°C), what would be the volume of the balloon at night?
8. A large box exerts a force of 789789 N on a piston with an area of 78 cm². You apply a 1234 N force on another piston that raises the box. What is the area of the piston that you apply the force to?

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9. You have a balloon with a volume of 1.5 L at a temperature of 75°C. What would the volume of the balloon become if you cooled the balloon down to 24°C?
10. You have a balloon with a volume of 1.5 L and a pressure of 100 kPa. What would happen to the volume of the balloon if you were to increase the pressure to 185 kPa
11. You sit down on a chair that is attached to a piston with an area of 21 cm². This piston exerts a force of 4852 N onto another piston that is 4.9 cm². How much force do you apply to the chair
12. What variable stays constant in Boyle's Law? Charles's Law? (Be specific in your answer)