

Student Name Key

Date _____

Much of the World uses the Metric system as the basic measuring system. The United States commonly uses a system developed in the British Empire. At times a technician might need to convert pressures, temperatures, or weights from one system to the other.

Pressure: U.S. uses psi, Metric system countries use bar or kilopascal (kPa).

psi to kilopascal: Multiply a pressure in psi by 6.895 to get the corresponding pressure in kPa; 5 psi is equal to 5×6.895 or 34.475 kPa. What would a low side pressure of 27 psi be equal to?

186.16 kPa

psi to bar: Multiply a pressure in psi by 0.0689 to get the corresponding pressure in bar; 5 psi is equal to 5×0.0689 or 0.3445 bar. What would a 150 psi high side pressure be equal to?

10.33 bar

kilopascal to psi: Multiply a pressure in kPa by 0.145 to get the corresponding pressure in psi; 20 kPa is equal to 20×0.145 or 2.9 psi. What would a 300 kPa low side pressure be equal to?

43.5 psi

bar to psi: Multiply a pressure in bar by 14.5 to get the corresponding pressure in psi; 2 bar is equal to 2×14.5 or 29 psi. What would a 18 bar high side pressure be equal to? 26.1 psi

Temperature: U.S. uses Fahrenheit (F), Metric system countries use Celsius (C).

Fahrenheit to Celsius: Subtract 32 from a temperature in F and multiply it by 0.556 to get the corresponding temperature in C; 50°F is equal to $50 - 32$ or 18 and 18×0.556 is 10°C . What would a temperature of 95°F be equal to? 35 C

Celsius to Fahrenheit: Multiply a temperature in C by 1.8 and add 32 to get the corresponding temperature in F; 20°C is equal to 20×1.8 or 36 and 36 plus 32 is 68°F . What would a temperature of 90°C be equal to?

194 F

Weight: U.S. uses pounds (lb), ounces (oz), and grams; Metric system countries use grams (g) and kilograms (kg). In the U.S. system, there are 16 oz in a lb and 28.5 g in an oz. In the metric system, 100 g equal 1 kg.

pounds to ounces: Multiply a weight in lb by 16 to get the corresponding weight in oz; 3 lb is equal to 3×16 or 48 oz. What would a refrigerant charge specification of 2.5 lb be equal to?

40 oz

What would a refrigerant charge specification of 1.32 Lb be equal to?

21.12 oz

pounds to kilograms: Multiply a weight in lb by 0.45 to get the corresponding weight in kg; 3 lb is equal to 3×0.45 or 1.35 kg. What would a refrigerant charge specification of 2.5 lb be equal to?

1.125 kg

ounces to kilograms: Multiply a weight in oz by 0.028 to get the corresponding weight in kg; 48 oz is equal to 48×0.028 or 1.344 kg. What would a refrigerant charge specification of 40 oz be equal to?

1.12 kg

kilograms to pounds: Multiply a weight in kg by 2.2 to get the corresponding weight in lb; 1.2 kg is equal to 1.2×2.2 or 2.64 lb. What would a refrigerant charge of 0.7 kg be equal to?

1.54 lb

kilograms to ounces: Multiply a weight in kg by 35.27 to get the corresponding weight in oz; 0.95 kg is equal to 0.95×35.27 or 33.5 oz. What would a refrigerant charge of 0.8 kg be equal to?

28.22 oz

grams to ounces: Multiply a weight in g by 0.035 to get the corresponding weight in oz; 950 g is equal to 950×0.035 or 33 oz. What would a refrigerant charge of 600 g be equal to? 21 oz