Name _____Answer Key_____   Date _____

Honors Physics   Thermodynamics WS #1H
Period _____   Mrs. Nadworny

Temperature

Directions: Read online textbook pages 360 – 363 and 371 - 375. Solve the following problems using the GUESS method and proper significant figures. Be sure to show ALL work.

1. What is the difference between 15 ^{0}C and 6 ^{0}C, expressed in Kelvin?

   (A) 9 K   (B) 15 K   (C) 273 K   (D) 282 K

2. The lowest outdoor temperature ever recorded on Earth is -128.6 ^{0}F, recorded at Vostok Station, Antarctica, in 1983.

   a. Convert this temperature to Celsius.

   $$T_C = \tfrac{5}{9}(T_F - 32) = \tfrac{5}{9}(-128.6°F - 32) = -89.22°C$$

   b. Convert this temperature to Kelvin.

   $$T_K = T_C + 273 = -89.22°C + 273 = 184K$$

3. The highest outdoor temperature ever recorded on Earth is 56.7 ^{o}C, recorded Death Valley, CA, in 1913.

   a. Convert this temperature to Fahrenheit.

   $$T_F = \tfrac{9}{5}T_c + 32 = \tfrac{9}{5}(56.7°C) + 32 = 134°F$$

   b. Convert this temperature to Kelvin.

   $$T_K = T_C + 273 = 56.7°C + 273 = 330.K$$

Answers in size order: 89.22, 134, 184,330.