7. [10 points] In this problem, we consider two functions:

- $W(s)$ is the wind chill\(^1\) (in degrees Fahrenheit) when the temperature is 30 degrees Fahrenheit and the wind speed is $s$ mph (miles per hour).
- $B(c)$ is the time (in minutes) it takes to develop frostbite on exposed skin when the wind chill is $c$ degrees Fahrenheit.

Assume both $W$ and $B$ are invertible. Fill in each blank below with one of the possible answers given below. Note that a given answer may be used in more than one blank, and that not all possible answers will be used.

Possible Answers:

\[
\begin{align*}
20 & \quad W(20) & \quad B(20) & \quad W(20) + B(20) \\
W^{-1}(20) & \quad B^{-1}(20) & \quad W(B(20)) & \quad B(W(20)) \\
W^{-1}(B^{-1}(20)) & \quad B^{-1}(W^{-1}(20)) & \quad W(B^{-1}(20)) & \quad B(W^{-1}(20))
\end{align*}
\]

*Assume throughout this problem that the temperature is 30 degrees Fahrenheit.*

a. [2 points] If the wind chill is $\underline{W(20)}$ degrees Fahrenheit, the wind speed is 20 mph.

b. [2 points] When the wind speed is 20 mph, exposed skin will develop frostbite in $\underline{B(W(20))}$ minutes.

c. [2 points] If the wind chill is 20 degrees Fahrenheit, then the wind speed is $\underline{W^{-1}(20)}$ mph.

d. [2 points] If the wind chill is 20 degrees Fahrenheit, then it will take exposed skin

$\underline{B(20)}$ minutes to develop frostbite.

e. [2 points] When the wind chill is $\underline{B^{-1}(20)}$ degrees Fahrenheit, exposed skin will develop frostbite in $\underline{20}$ minutes.

\(^1\)Note that wind chill is the temperature it “feels like”.