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:

20	$W(20)$	$B(20)$	W(20)+B(20)
$W^{-1}(20)$	$B^{-1}(20)$	$W(B(20))$	$B(W(20))$
$W^{-1}(B^{-1}(20))$	$B^{-1}(W^{-1}(20))$	$W(B^{-1}(20))$	$B(W^{-1}(20))$

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

a. [2 points] If the wind chill is _____ degrees Fahrenheit, the wind speed is 20 mph.

b. [2 points] When the wind speed is 20 mph, exposed skin will develop frostbite in _____ minutes.

c. [2 points] If the wind chill is 20 degrees Fahrenheit, then the wind speed is _____ mph.

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

_____ minutes to develop frostbite.

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

frostbite in _____ minutes.

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[1]Note that *wind chill* is the temperature it "feels like".