True/False questions:

1. False (`while` loop is an infinite loop)   **2.** True

3. False (sentinel loop waits for the "special value" to be entered by the user as a signal to stop)

4. True   **5.** False The easiest way: `for line in source:`

6. False (post-test loop means that a condition is checked at the end of iteration, whereas `while` `loop`'s condition is checked at the very beginning of each iteration)

7. True, but is only one case of three. The general definition is : Boolean operator `or` is `True` when at east one of its operands is `True`

8. True (distribution law)

9. False (because `not (a or b) == (not a) and (not b)`)   **10.** True

Multiple Choice:

1. a)   **2.** c)   **3.** d)   **4.** c)   **5.** c)

6. c)   **7.** d)   **8.** b)   **9.** c)   **10.** a)

Discussion: #2

(a)

P	Q	P and Q	not(P and Q)
T	T	T	F
T	F	F	T
F	T	F	T
F	F	F	T

(b)

P	Q	not P	(not P) and Q
T	T	F	F
T	F	F	F
F	T	T	T
F	F	T	F

(c)

P	Q	not P	not Q	(not p) or (not Q)
T	T	F	F	F
T	F	F	T	T
F	T	T	F	T
F	F	T	T	T

(d)

P	Q	R	P and Q	(P and Q) or R
T	T	T	T	T
T	T	F	T	T
T	F	T	F	T
T	F	F	F	F
F	T	T	F	T
F	T	F	F	F
F	F	T	F	T
F	F	F	F	F

(e)

P	Q	R	(P or R)	(Q or R)	(P or R) and (Q or R)
T	T	T	T	T	T
T	T	F	T	T	T
T	F	T	T	T	T
T	F	F	T	F	F
F	T	T	T	T	T
F	T	F	F	T	F
F	F	T	T	T	T
F	F	F	F	F	F

#3 (b,c)

(a)
sum = 0
counter = 1
while counter <= n:
        sum += counter
        Counter += 1

sum is the requested sum

(b)   sum = 0
       counter = 1
       while counter <= 2n-1:
              sum += counter
              Counter += 2

sum is the requested sum

(c)
sum = 0
next_value = 0
while next_value! = 999:
     sum += next_value
     next_value = float(input("Enter the\
 next value to add:"))

sum is the requested sum

(d)
counter = 0
while n//2 >= 1:
        counter += 1
        n = n // 2

counter is the number of times a whole number n can
be divided by 2 (using integer division).