

Name: Key

PLTW | Computer Science

Computer Science Semester Review

This packet is due prior to taking the final

1. Perform the following calculations in binary

$$\begin{array}{r} 1010011 \\ +01100011 \\ \hline \cancel{0110110} \\ 10110110 \end{array}$$

$$\begin{array}{r} 1001101 \\ +01101010 \\ \hline \cancel{0110111} \\ 1011011 \end{array}$$

$$\begin{array}{r} 1110100 \\ +01110010 \\ \hline 11100110 \end{array}$$

2. Convert the following binary numbers to decimal

a. 01001110 78

b. 10010011 147

c. 00000110 6

d. 00101011 43

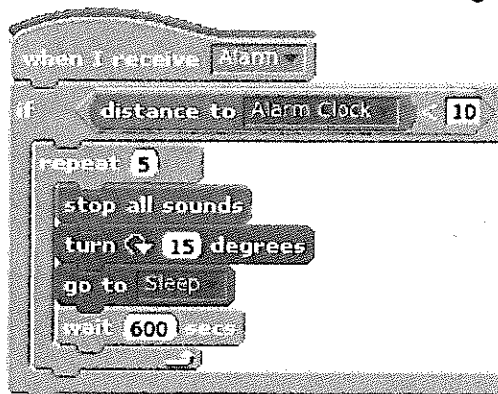
3. How many bits are in a byte?

8

4. What is the number of bits needed in order to represent the number 101 in binary?

7

5. What happens if the distance to the alarm clock is greater than 10?



a. All sounds stop

b. Wait 600 seconds

c. turn 15 degrees

d. nothing

6. Matching - What will the code print?

print type(1.2) <type 'float'>
print type('abc') <type 'str'>
print type(45) <type 'int'>

7. What will the code print?

```
x = 'I'  
y = 'luv'  
z = 'computers'  
print x+y+z
```

- a. I luv computers
- b. Iluvcomputers
- c. x+y+z
- d. Error- cannot concatenate 'str' and 'int' objects

8. What will the code print?

```
x=True  
y= False  
z= False  
if x or y:  
    print "Sandwich time!"  
else:  
    print "No sandwich time!"
```

9. What will the code print?

```
x=True  
y= False  
z= False  
  
if x and z:  
    print "Hello There!"  
else:  
    print "Print me!"
```

10. In[]: range(10)

Out[]: ? [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]

11. In[]: range(100, 125, 5)

Out[]: ? [100, 105, 110, 115, 120]

12. What will be the output?

```
In[ ]: for x in range (0,10):  
    print x+7
```

7, 8, 9, 10, 11, 12, 13, 14, 15, 16