

**1.)What does the indirection operator do? -**

The \* (indirection) operator dereferences the value referred to by the pointer type operand, and it is used to access the value stored in an address.

**3.)What are the three different uses for the \* operator? -**

Multiplication operator, pointer definition, indirection operator

**5.)Assuming ptr is a pointer to an int, what happens when you add 4 to ptr? -**

The value 16 is added to the memory address of ptr.

**7.)What is the purpose of the new operator? -**

allocate memory dynamically at runtime

**9.)What is the purpose of the delete operator? -**

deallocate the memory allocated by the new operator

**11.)What is the difference between a pointer to a constant and a constant pointer?**

A pointer to constant may not be used to change the value it points to.

**13.)Each byte in memory is assigned a unique \_\_\_\_ -**

Address

**15.)\_\_\_\_ variables are designed to hold addresses -**

Pointer

**17.)Array names can be used as \_\_\_\_, and vice versa. -**

pointers

**19.)The \_\_\_\_ operator is used to dynamically allocate memory -**

new

**21.)A pointer that contains the address 0 is called a(n) \_\_\_\_ pointer. -**

null

**23.)You should only use pointers with delete that were previously used with**

new

new

**25.)Look at the following array definition:**

```
int set[10];
```

Write a statement using ptr notation that stores the value 99 in set[7]; -

```
*(set + 7) = 99;
```

**27.)Assume that tempNumbers is a pointer that points to a dynamically allocated array. Write code that releases the memory used by the array. -**

```
delete []tempNumbers;
```

**29.)Write the definition of ptr, a pointer to a constant int. -**

```
const int value;
```

```
int *ptr = &value;
```

**31.)T/F: Each byte of memory is assigned a unique address -**

true

**33.)T/F: Pointer variables are designed to hold addresses. -**

True, by definition they are designed to hold addresses.

**35.)T/F: The & operator dereferences a pointer. -**

False, as by definition of the address operator.

**37.)T/F: Array names cannot be dereferenced with the indirection operator. -**

False

**39.)T/F: The address operator is not needed to assign an array's address to a pointer.**

True

**41.)T/F: Any mathematical operation, including multiplication and division, may be performed on a pointer. -**

False, pointer doesn't support all arithmetic operations.

**43.)T/F: When used as function parameters, reference variables are much easier to work with than pointers. -**

True, as reference variable acts as an alias to original variable used as an argument.

**45.)T/F: A pointer variable that has not been initialized is called a null pointer. -**

False, as a pointer that contains the address 0 is called a null pointer.

**47.)T/F: In using a pointer with the delete operator, it is not necessary for the pointer to have been previously used with the new operator. -**

False, as delete operator is used to free memory that was allocated with new.

**49.)**

Should be `ptr = &x;`

**51.)**

Should be `*ptr = 100;`

**55.)**

Int ivalue must be declared before