

Section: _____ Name: _____

Problems 1-10 refer to the following statements:

```
/*      0  1  2  3  4  5  array positions */
int x[] = {5, 6, 4, -8, 3, 7};
int *ptr = &x[0];
```

What is the value of the following expressions? For each problem, restart with the values as above.

| | <u>Work Space</u> | <u>Your Answer</u> | <u>Computer</u> |
|------------------------------------|-------------------|--------------------|-----------------|
| 1. *ptr | _____ | 1. _____ | 1. _____ |
| 2. *ptr + 3 | _____ | 2. _____ | 2. _____ |
| 3. *(ptr+3) | _____ | 3. _____ | 3. _____ |
| 4. *ptr + *(ptr + 5) | _____ | 4. _____ | 4. _____ |
| 5. *(ptr + 2) - 1 | _____ | 5. _____ | 5. _____ |
| 6. x[3] - *ptr | _____ | 6. _____ | 6. _____ |
| 7. *ptr + x[5] + *(ptr + 1) + x[2] | _____ | 7. _____ | 7. _____ |
| 8. *x | _____ | 8. _____ | 8. _____ |
| 9. *x + *ptr | _____ | 9. _____ | 9. _____ |
| 10. x[2] - *ptr + 3 | _____ | 10. _____ | 10. _____ |

➔ more on next page

Problems 11-16 refer to the following declarations and function:

```
int partial_sum (int x[], int npts); /* function prototype */

/* Array & variables as initialized in main, abridged */

int main (void)
/*      0  1  2  3  4  5  6  7  array positions */
int a[ ] = {-6, 3, 4, 1, 8, 20, 16, 7};
int *ptr = &a[2];
partial_sum( see below);

/*-----*/
/* This function will add up a fragment of the array */
int partial_sum (int x[], int npts) {

    int k, sum = 0;

    /* Compute partial sum. */
    for (k = 0; k < npts; k++)
        sum += x[k];

    return sum;
}
/*-----*/  /* workspace below */
```

| | <u>You</u> | <u>Computer</u> |
|---|------------|-----------------|
| 11. What is the value of the reference partial_sum(ptr, 2) _____ | 11. _____ | 11. _____ |
| 12. What is the value of the reference partial_sum(ptr+1, 3) _____ | 12. _____ | 12. _____ |
| 13. What is the value of the reference partial_sum(a, 8) _____ | 13. _____ | 13. _____ |
| 14. What is the value of the reference partial_sum(a, 4) _____ | 14. _____ | 14. _____ |
| 15. What is the value of the reference partial_sum(ptr, a[1]) _____ | 15. _____ | 15. _____ |
| 16. What is the value of the reference partial_sum(&a[3], 2) _____ | 16. _____ | 16. _____ |

→ more on next page

Line 1. `int y[] = {2, 13, 5, 17, 8, 6, 15}, *ptr = &y[3];` `// could also do: int *ptr = y+3;`

Line 2. `*ptr = * ptr + 4;`

Line 3. `*(ptr+2) = y[0];`

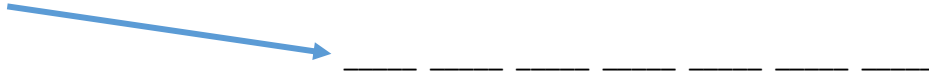
Questions:

17. What is the value of `*ptr`, after initialization, after line 1; 17. _____

18. What is the value of `*ptr` after the execution of line 2? 18. _____

19. What is the value of `*(ptr+2)` after the execution of line 3? 19. _____

20. What are the values in the whole array **after** all three lines of code have been executed?

 _____

FILE you need

The file you need for lab6 to fill in the “computer” part is: `lab6.c`

- To get it from the Coding computers:
 - First move to your class folder by typing: `cd csc60`
 - The long command below will create a `lab6` directory and put one file in it.
 - Type: `cp /home/college/bielr/files_csc60/lab6.c` . (Don’t miss the “space dot” after the `c`)
 - Next the file permissions need to be changed by typing: `chmod 644 lab6.c`
 - Now you can move into the `lab6` directory
- You can also download it from Canvas.

Compile, run it, fill in the *Computer Section* of the worksheet.

No points off for wrong guesses.

The point is to learn from both the correct answers and the wrong ones.

Turn in this worksheet for credit:

- If you worked on a paper copy, scan the papers and then submit the PDFs to Canvas.
- If you worked electronically in Adobe, be sure to Save the File (upper left corner), and then submit it to Canvas.

Total Score = **20 points** If turned in with the sheet filled in. Not grading for right or wrong.