MIDTERM3

Examine the following 'for' loops and determine the value of 'ires' at the end of each of the loops and the number of times each of the loop executes,

1.

```
ires = 5;
for index = -25:10;
    ires= ires+1;
end
```

a) Ires: 40
number of loops: 35

b) Ires: 41
number of loops: 36

c) Ires: 36
number of loops: 35

2.

```
ires = 0;
for index = 10:-4:4;
    if index == 6
        break;
    end
    ires= ires+index;
end
```

a) Ires: 6
number of loops: 2

b) Ires: 10
number of loops: 3

c) Ires: 10
number of loops: 1

If the value of 'ires' is 50 choose the correct statement for the following 'for' loop

3.

```
ires =0;
loopcnt= 0;
for index1 = 1:10
    for index2 = index1:10
        if index2 ==6
                ?
        end
        ires = ires +2;

    end
end
```

a) break

b) continue

d) while expression

4. Which of the following is an alternate and faster way of performing the same function as many MATLAB for loops?

    a) Exhaustive enumeration
    b) Vectorization
    c) Variable declaration
    d) Amortization

5. Choose the best code to solve the following problem:

    SpongeBoy buys 5 Jelly Patties every day and his friend Pablo Star eats 2 patties every time, how many patties will SpongeBoy have at the end of a 30-day month?

A)

```
patties=5
for days= 1:30
    patties=patties+3
end
disp(['SpongeBoy would have: ' num2str(patties) ' patties']);
```

B)

```
patties=0
for days= 1:30
    patties=patties+5
end
disp(['SpongeBoy would have: ' num2str(patties) ' patties']);
```

C)

```
patties=0
for days= 1:30
    patties=patties+3
end
disp(['SpongeBoy would have: ' num2str(patties) ' patties']);
```

6. The for loop is a loop that executes a block of statements a specified number of times.
    a. True
    b. False

7. Never modify the value of a loop index within the body of the loop.
    a. True
    b. False

8. The Wal-Mart Stores, Inc. lists the sales (in billions of dollar) as 384.7 billion in 2006, 378.8 billion in 2007, 405.6 billion in 2008, 408.2 billion in 2009, 421.8 billion in 2010, 447.0 billion in 2011, 469.2 billion in 2012 and 476.2 billion in 2013.

a. Fit a second-degree polynomial from 2006 to 2013.

b. Predict the sales in 2019.

c. Plot the graph.