Problem #146 (I pasted the blurb for this one, since it was easy to copy, but the other problems are very hard to copy like this, so I'm sorry but you'll have to look the other ones up)

Blurb: The smallest positive integer n for which the numbers n^2+1, n^2+3, n^2+7, n^2+9, n^2+13, and n^2+27 are consecutive primes is 10. The sum of all such integers n below one-million is 1242490. What is the sum of all such integers n below 150 million?

Function to test if n meets the condition

```
testPrimePattern[inputNum_] :=
 Module[{squared},
  (*Square the inputted number*)
  squared = inputNum^2;
  (*Does it meet the condition? These && mean 'and'*)
  PrimeQ[squared + 1] && PrimeQ[squared + 3] && PrimeQ[squared + 7] &&
   PrimeQ[squared + 9] && PrimeQ[squared + 13] && PrimeQ[squared + 27]
 ]
```

Testing the given test case

```
In[247]:= testPrimePattern[10]
Out[247]= True

In[248]:= testPrimePattern[5]
Out[248]= False

In[254]:= underMillion = Select[Range[1 000 000], testPrimePattern[#] &]
Out[254]= {2, 10, 315 410, 927 070}

In[255]:= Total[underMillion]
Out[255]= 1 242 492
```

Oh! The given test case is incorrect (sum of integers under 1 million).

If you calculate the numbers by hand, 2 also works for the given condition.

Under 150 million

In[256]:=
```
actualProblem = Select[Range[150 000 000], testPrimePattern[#] &];
```

In[259]:=
```
actualProblem
```

Out[259]=
```
{2, 10, 315 410, 927 070, 2 525 870, 8 146 100, 16 755 190, 39 313 460,
 97 387 280, 119 571 820, 121 288 430, 130 116 970, 139 985 660, 144 774 340}
```

In[257]:=
```
Total[actualProblem]
```

Out[257]=
```
821 107 612
```