FERMAT SIEVE USING COMPLEX NUMBERS

Fred Viole
OVVO Financial Systems
fred.viole@ovvofinancialsystems.com

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If $N = 4k - 1$ then $\{R\}$ is EVEN	N and {i} is ODD	p=(R-i) q=(R+i)	Semi-Prime { N } Ending In:							
If the real part of the number	er { R } is EVEN:	Resulting Reals (p,q) end in:	<u>Example</u>	1	3	7	9	Notes:		
And $\{R\}$ ends in: 2	And (i) ends in:	1 (1,3)	(22-1)(22+1)	Χ		X	X	 No {R} ending in 2 can generate {N} ending in 1 or 7. 		
		3 (9,5)	(22-3)(22+3)	X	X	X	X	· The highest probability is { N } ending in 3.		
		5 (7,7)	(22-5)(22+5)	X	X	X				
		7 (5,9)	(22-7)(22+7)	X	X	X	X			
		9 (3,1)	(22-9)(22+9)	X		X	X			
				C-	: D.: (1	M) Fadia -				
		Resulting Reals (p,q) end in:	Evample		mi-Prime { <i>ا</i> ء	v } Enaing i 7	in: 9			
And { R } ends in: 4	And (<i>i</i>) ends in:	·	Example (24-1)(24+1)	1 X	3 X	X	X	No (D) and the to A and a second (At) and the to 2 and 0		
And $\{R\}$ ends in: 4	And (I) ends in:	1 (3,5)	, ,, ,		X		X	 No {R} ending in 4 can generate {N} ending in 3 or 9. The highest probability is {N} ending in 7. 		
		3 (1,7)	(24-3)(24+3)	X				• The highest probability is { N } ending in 7.		
		5 (9,9)	(24-5)(24+5)		X	X	X			
		7 (7,1)	(24-7)(24+7)	X	X		X			
		9 (5,3)	(24-9)(24+9)	X	X	X	X			
				Semi-Prime { N } Ending In:						
		Resulting Reals (p,q) end in:	<u>Example</u>	1	3	7	9			
And $\{R\}$ ends in: 6	And (i) ends in:	1 (5,7)	(26-1)(26+1)	Χ	Χ	X	X	 No {R} ending in 6 can generate {N} ending in 3 or 9. 		
		3 (3,9)	(26-3)(26+3)	X	X		X	· The highest probability is { N } ending in 7.		
		5 (1,1)	(26-5)(26+5)		X	X	Χ			
		7 (9,3)	(26-7)(24+7)	X	X		Χ			
		9 (7,5)	(26-9)(26+9)	X	X	X	X			
				So	mi-Prime { <i>I</i>	N \ Ending	ln:			
		Resulting Reals (p,q) end in:	Example	1	3	7 - 7	9			
And { <i>R</i> } ends in: 8	And (<i>i</i>) ends in:	1 (7,9)	(28-1)(28+1)	X		X	X	• No {R} ending in 8 can generate {N} ending in 1 or 7.		
And (N) chas in.	And (1) chas in.	3 (5,1)	(28-3)(28+3)	X	X	X	X	The highest probability is { N } ending in 3.		
		5 (3,3)	(28-5)(28+5)	X	X	X		The ingress probability is (iv) chaing in s.		
		7 (1,5)	(28-7)(28+7)	X	X	X	X			
		9 (9,7)	(28-9)(28+9)	X		X	X			
		(3,7)	(20 3)(2013)	X		^	Α			
		Semi-Prime { N } Ending In:								
		Resulting Reals (p,q) end in:	<u>Example</u>	1	3	7	9			
And $\{R\}$ ends in: 0	And (<i>i</i>) ends in:	1 (9,1)	(20-1)(20+1)	Χ	Χ	Χ		· No { R } ending in 0 can generate { N } ending in 3 or 7.		
		3 (7,3)	(20-3)(20+3)		Χ	Χ	X	• The highest probability is { N } ending in 1 or 9.		
		5 (5,5)	(20-5)(20+5)	X	Χ	Χ	Χ			
		(-,-,								
		7 (3,7)	(20-7)(20+7)		X	X	X			

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If $N = 4k + 1$ then $\{R\}$ is ODD and $\{i\}$ is EVEN				p=(R-i) q=(R+i)	Semi-Prime (N) Ending In:						
If the real part of the number {R} is ODD:				Resulting Reals (p,q) end in:	<u>Example</u>	1	3	7	9	Notes:	
And {R} ends in:	1	And (i) ends in:	2	(9,3)	(21-2)(21+2)	Χ	Χ		Χ	 No {R} ending in 1 can generate {N} ending in 3 or 9. 	
			4	(7,5)	(21-4)(21+4)	X	X	X	X	· The highest probability is { N } ending in 7.	
			6	(5,7)	(21-6)(21+6)	X	X	X	X		
			8	(3,9)	(21-8)(21+8)	X	X		X		
			0	(1,1)	(21-10)(21+10)		X	X	X		
						C-	: Dui (At) Fadian	l.a.		
				Resulting Reals (p,q) end in:	Evample			N } Ending 7	in: 9		
And { R } ends in:	3	And (i) ends in:	2	(1,5)	<u>Example</u> (23-2)(23+2)	1 X	3 X	X	X	No (D) and the to 2 are seen to (A) and the to 4 and 7	
And { k } ends in:	3	And (I) ends in:	2 4				^	X	X	 No {R} ending in 3 can generate {N} ending in 1 or 7. The highest probability is {N} ending in 3. 	
			6	(9,7)	(23-4)(23+4)	X		X		• The highest probability is { M } ending in 5.	
				(7,9)	(23-6)(23+6)	X	X		X		
			8 0	(5,1)	(23-8)(23+8)	X X	X	X X	X		
			U	(3,3)	(23-10)(23+10)	^	^	^	Ш		
						Se	mi-Prime {	N } Ending	ln:		
				Resulting Reals (p,q) end in:	<u>Example</u>	1	3	7	9		
And {R} ends in:	5	And (i) ends in:	2	(3,7)	(25-2)(25+2)		Χ	Χ	Χ	 No {R} ending in 5 can generate {N} ending in 3 or 7. 	
			4	(1,9)	(25-4)(25+4)	Χ	X	X		· The highest probability is { N } ending in 1 or 9.	
			6	(9,1)	(25-6)(25+6)	Χ	X	X			
			8	(7,3)	(25-8)(25+8)		Χ	X	X		
			0	(5,5)	(25-10)(25+10)	X	X	X	X		
						So	mi-Drime /	N } Ending	ln·		
				Resulting Reals (p,q) end in:	Example	1	3	7 7 Ename	9		
And { R } ends in:	7	And (i) ends in:	2	(5,9)	(27-2)(27+2)	X	X	X	X	 No {R} ending in 7 can generate {N} ending in 1 or 7. 	
,a (11) cas	•	/a (1 / cas	4	(3,1)	(27-4)(27+4)	X		X	X	The highest probability is { N } ending in 3.	
			6	(1,3)	(27-6)(27+6)	X		X	X	The moreon processing in (1) areang man	
			8	(9,5)	(27-8)(27+8)	X	X	X	X		
			0	(7,7)	(27-10)(27+10)	X	X	X			
					Semi-Prime {N} Ending In:						
				Resulting Reals (p,q) end in:	<u>Example</u>	1	3	7	9		
And { R } ends in:	9	And (i) ends in:	2	(7,1)	(29-2)(29+2)	X	X		X	• No { R } ending in 9 can generate { N } ending in 3 or 9.	
			4	(5,3)	(29-4)(29+4)	X	Χ	X	X	• The highest probability is { N } ending in 7.	
			6	(3,5)	(29-6)(29+6)	X	X	X	X		
			8	(1,7)	(29-8)(29+8)	X	X		X		
			0	(9,9)	(29-10)(29+10)		X	X	X		