19. $\langle 1\rangle$, $\langle 7\rangle$, $\langle 11\rangle$, $\langle 17\rangle$, $\langle 19\rangle$, $\langle 29\rangle$

35.

$$\begin{array}{c}\langle p^{n-n}\rangle \\ \vdots \\ \langle p^{n-3}\rangle \\ | \\ \langle p^{n-2}\rangle \\ | \\ \langle p^{n-1}\rangle \\ | \\ \langle 0\rangle\end{array}$$

55. $1\cdot 4$, $3\cdot 4$, $7\cdot 4$, $9\cdot 4$; $x^4, (x^4)^3, (x^4)^7, (x^4)^9$.

58. The number of solutions to $x^{15}=e$ in G is 15. To see this let H be the unique subgroup of G of order 15. Then H also contains the unique subgroups of G orders 1, 3, and 5. Since every element of G that is a solution to $x^{15}=e$ has order 1,3, 5 or 15 we know that H contains all solutions and every element of H is a solution. The same argument works when 15 is replaced by any positive integer n.

68. First note that if k is a generator then so is $-k$. Thus it suffices to show that $k\neq -k$. But $k=-k$ implies that $2k=0$ so that $n=|k|=1$ or 2.