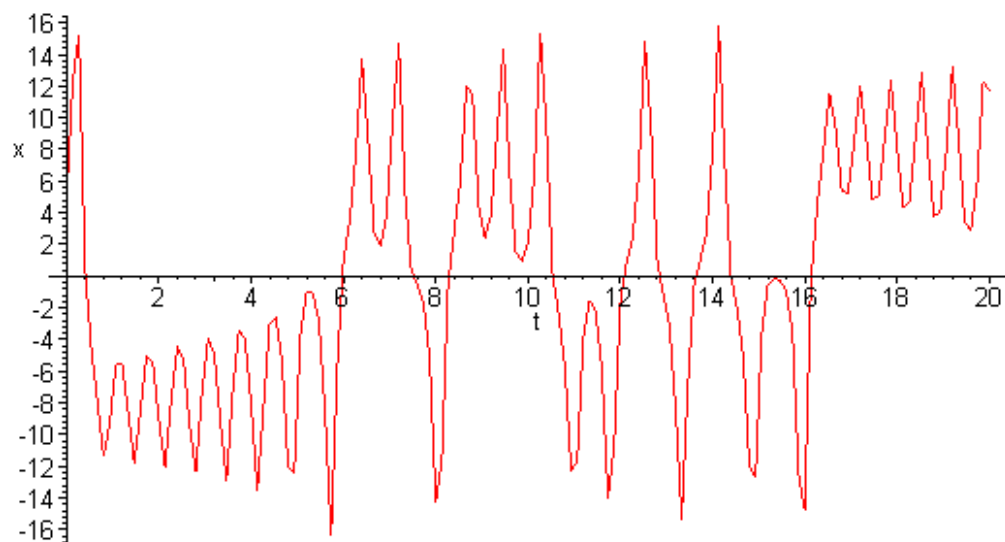
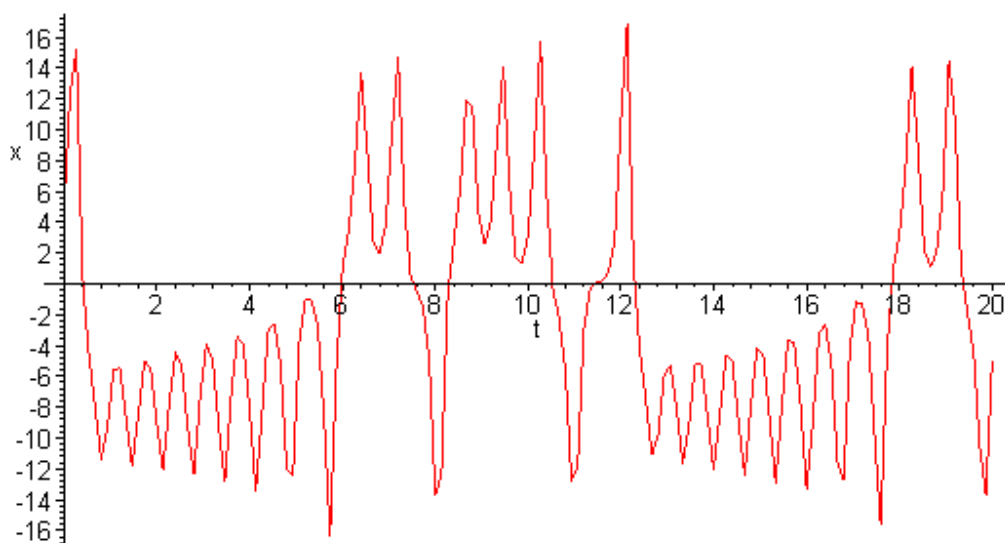


Section 9.8

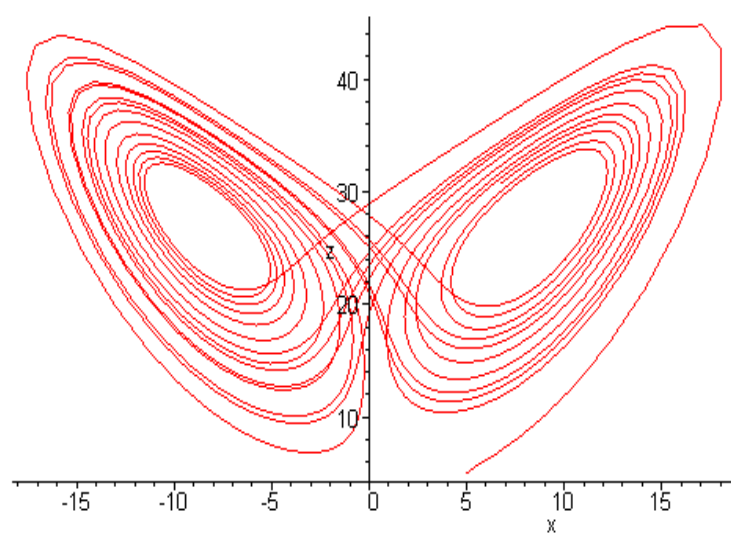
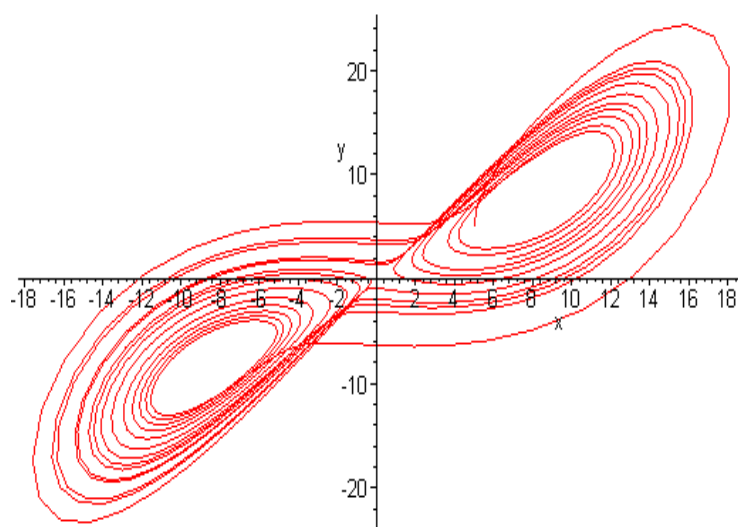
6. $r = 28$, with initial point $(5, 5, 5)$:



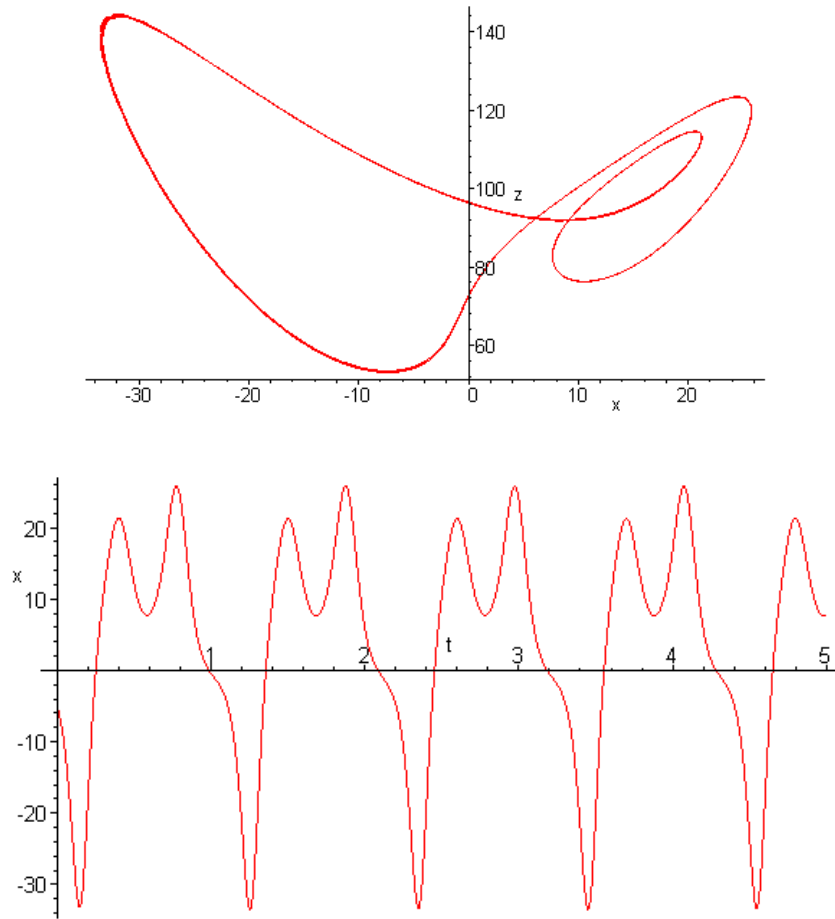
$r = 28$, with initial point $(5.01, 5, 5)$:



7. $r = 28$:

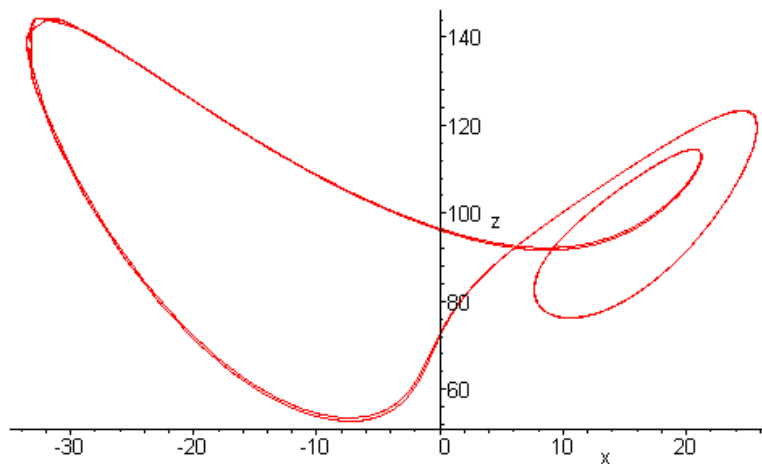


9(a). $r = 100$, initial point $(-5, -13, 55)$:

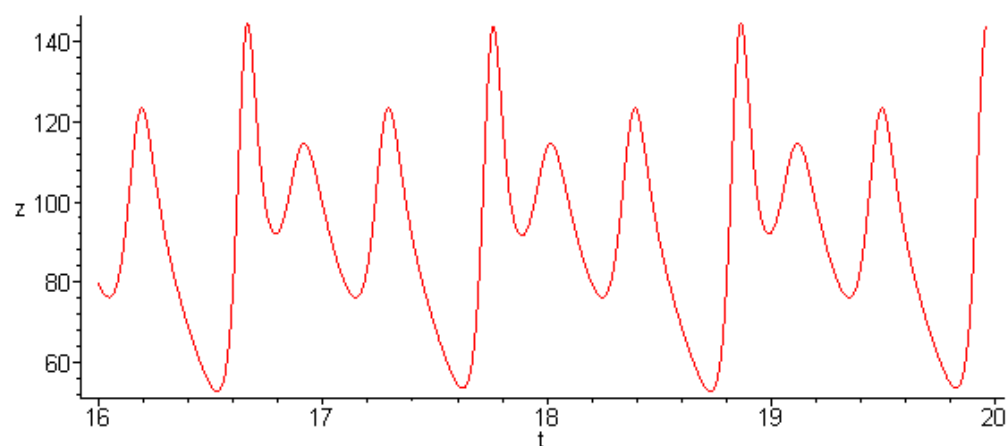


The period appears to be $T \approx 1.12$.

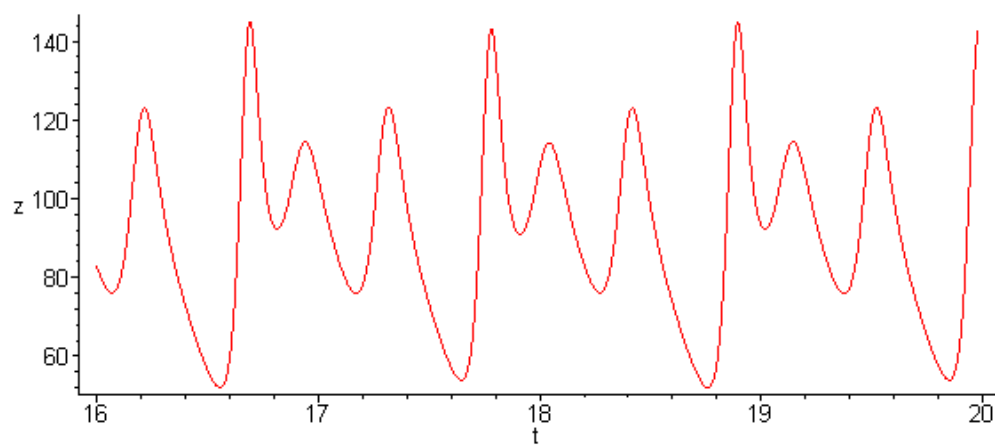
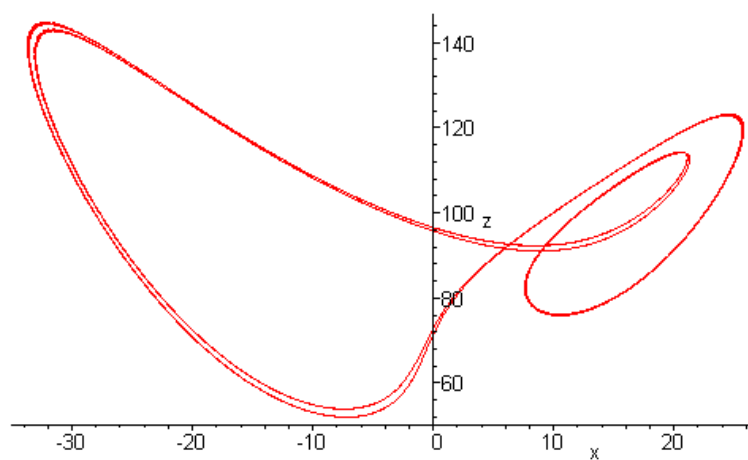
(b). $r = 99.94$, initial point $(-5, -13, 55)$:



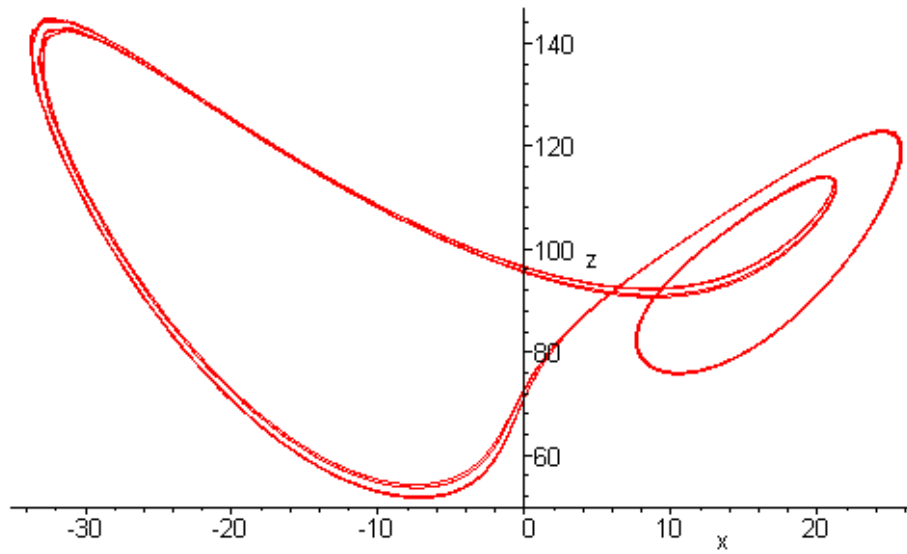
The periodic trajectory appears to have split into two strands, indicative of a period-doubling. Closer examination reveals that the peak values of $z(t)$ are slightly different:



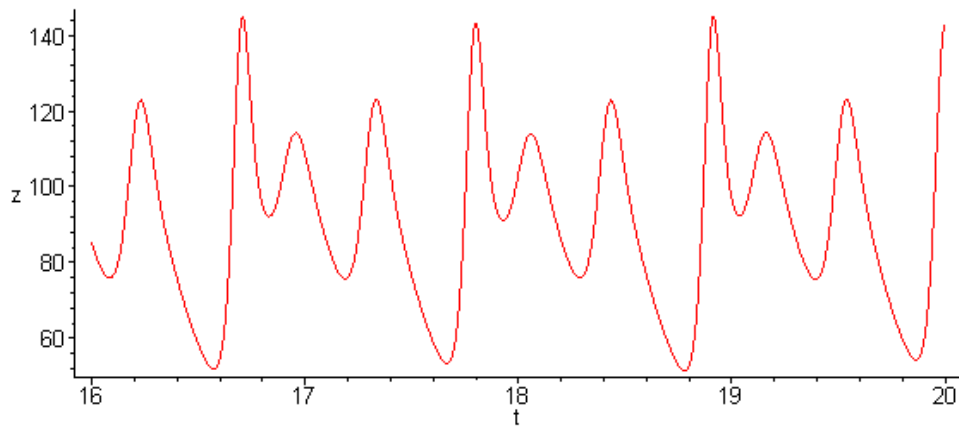
$r = 99.7$, initial point $(-5, -13, 55)$:



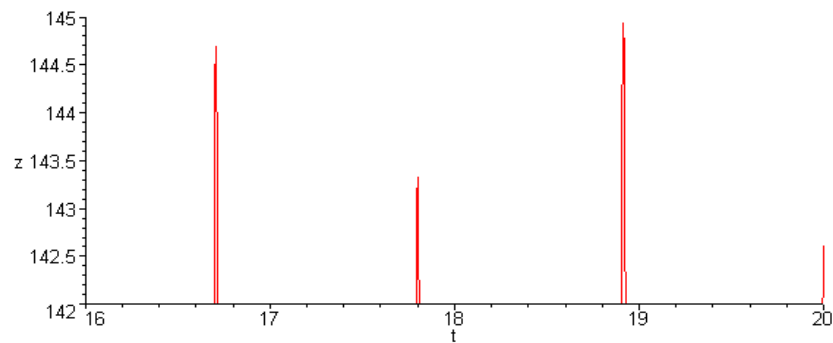
(c). $r = 99.6$, initial point $(-5, -13, 55)$:



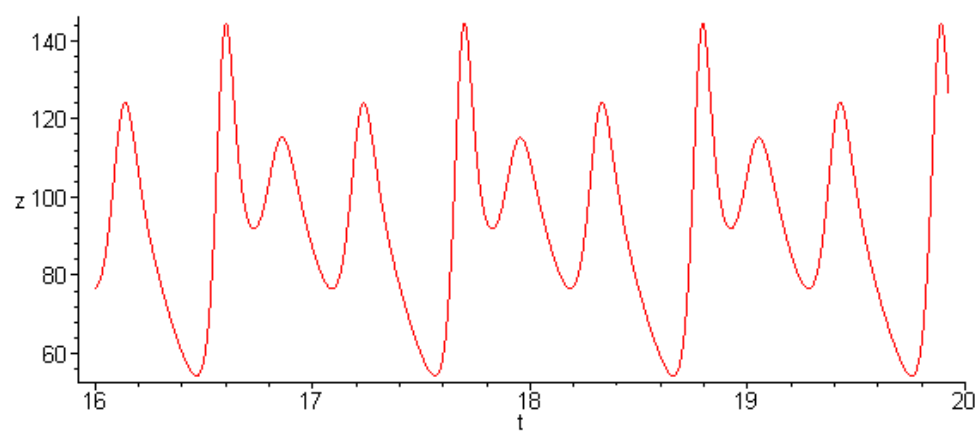
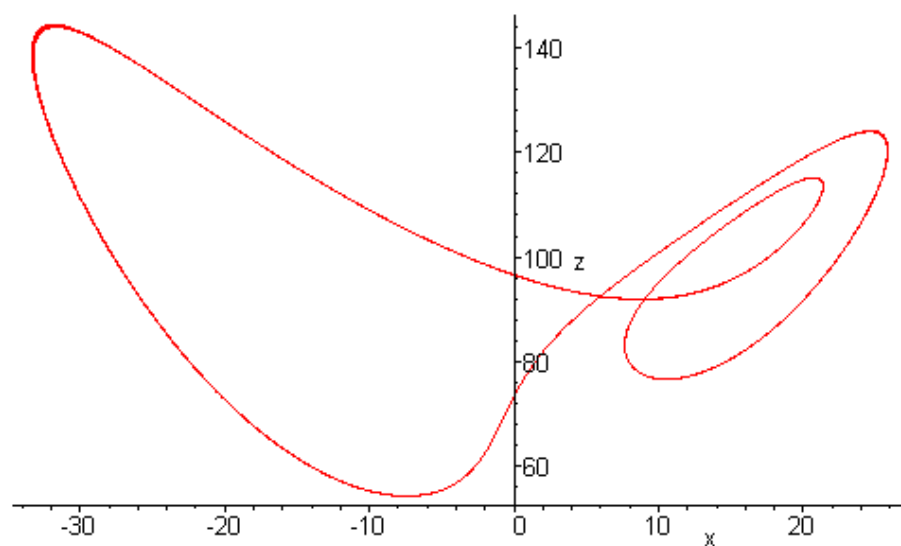
The strands again appear to have split.



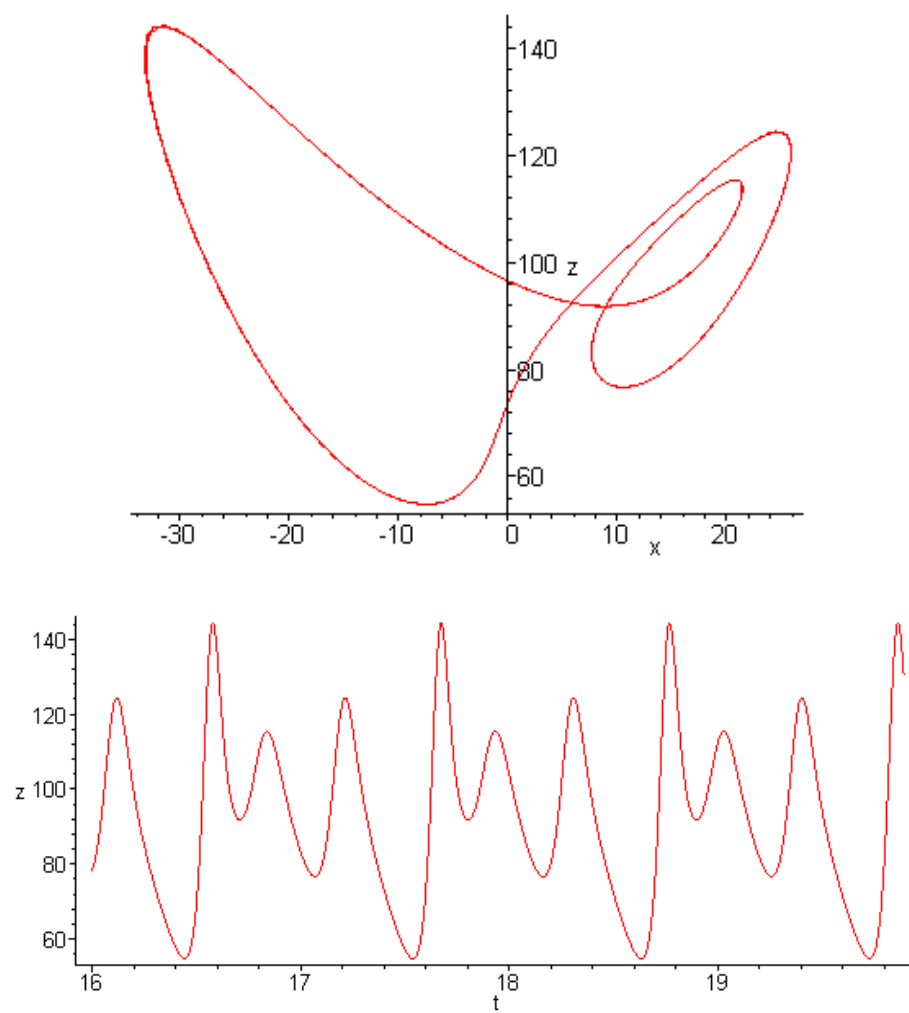
Closer examination reveals that the peak values of $z(t)$ are different:



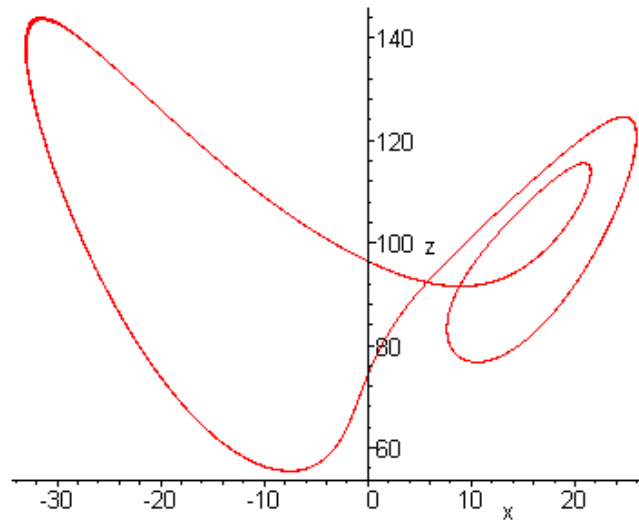
10(a). $r = 100.5$, initial point $(-5, -13, 55)$:



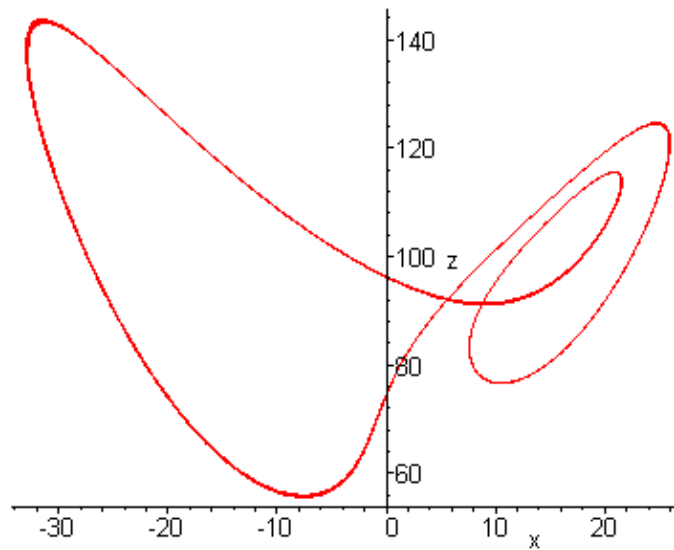
$r = 100.7$, initial point $(-5, -13, 55)$:



(b). $r = 100.8$, initial point $(-5, -13, 55)$:

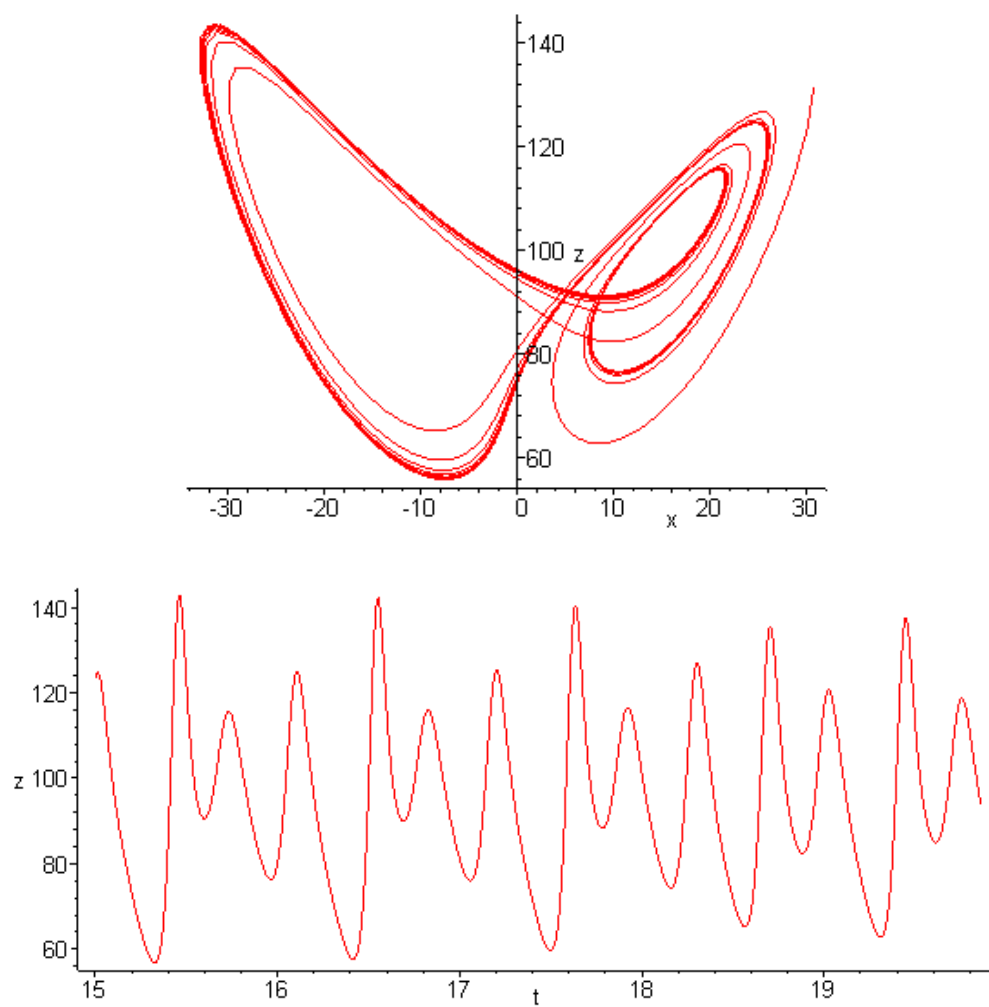


$r = 100.81$, initial point $(-5, -13, 55)$:

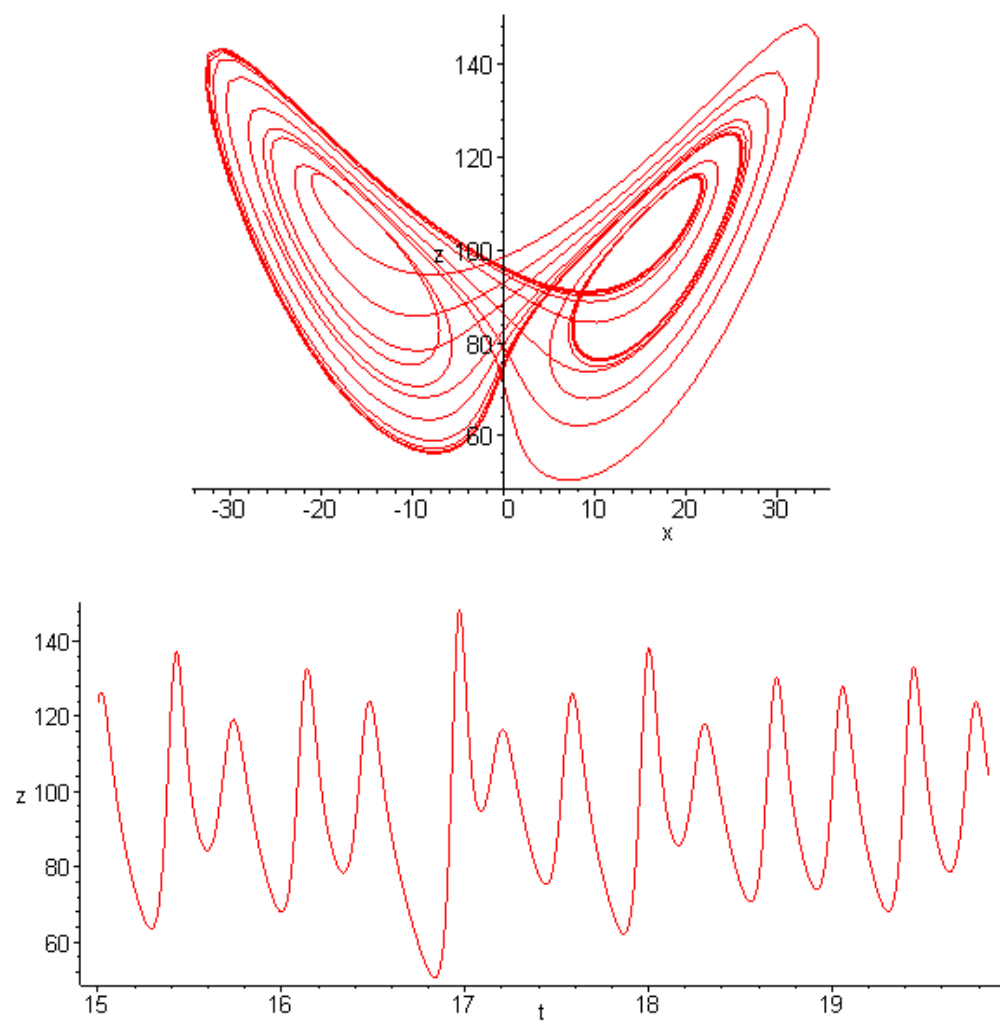


The strands of the periodic trajectory are beginning to split apart.

$r = 100.82$, initial point $(-5, -13, 55)$:



$r = 100.83$, initial point $(-5, -13, 55)$:



$r = 100.84$, initial point $(-5, -13, 55)$:

