```
delete_fenum_value_comp2_gen  THM

⊢  Inj({u:ℤ| P(u) }; {u:ℤ| Q(u) }; f)
|  ⇒
|  (∀m:{u:ℤ| P(u) }, k:{v:ℤ| Q(v) }, i:{u:ℤ| P(u) & ¬u = m }.
|   ¬f(i) = k
|   ⇒
|   (Replace value k by f(m) in f)(i) = f(i) ∈ {v:ℤ| Q(v) & ¬v = k })
| by Auto
|
1. P : ℤ→Prop
2. Q : ℤ→Prop
3. f : {u:ℤ| P(u) }→{v:ℤ| Q(v) }
4. Inj({u:ℤ| P(u) }; {u:ℤ| Q(u) }; f)
5. m : {u:ℤ| P(u) }
6. k : {v:ℤ| Q(v) }
7. i : {u:ℤ| P(u) & ¬u = m }
8. ¬f(i) = k
⊢  (Replace value k by f(m) in f)(i) = f(i) ∈ {v:ℤ| Q(v) & ¬v = k }
| by Compute
|      ⌈(Replace value k by f(m) in f)(i)⌉
|      *⇒
|      if f(i)=_2k→ f(m) else f(i) fi
|    THEN
|    SplitITE Concl
|
.....falsecase .....
9. f(i) ≠ k
⊢  f(i) = f(i) ∈ {v:ℤ| Q(v) & ¬v = k }
  by ApFun: f to: i THEN Analyze-1 THEN Guarding (f(<arg>)) Analyze
END
```