

# Special languages module, Polytechnic university of Tehran

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## Exercise 1:

1. There are 3 special cases.  $\rightarrow$  There are three special cases.
2. X is a finite set.  $\rightarrow$  The set X is finite.
3. It does not tend to infinity.  $\rightarrow$  It does not tend to infinity.
4. It follows  $x - 1 = y^4$ .  $\rightarrow$  hence(it follows that)  $x - 1 = y^4$ .
5.  $\therefore c^{-1}$  is undefined.  $\rightarrow$  therefore  $c^{-1}$  is undefined.
6. The product of 2 negatives is positive.  $\rightarrow$  Multiplying two negative numbers results in a positive number. (The product of two negative numbers is a positive number.)
7. We square the equation.  $\rightarrow$  We square both sides of the equation.
8. We have less solutions than we had before.  $\rightarrow$  We have fewer solutions than we had before.
9.  $x^2 = y^2$  are two othogonal lines.  $\rightarrow$  The equation  $x^2 = y^2$  represents two orthogonal lines.
10. Let us devise a strategy for a proof.  $\rightarrow$  here is a strategy for the proof. (Let us consider/use/find a strategy for the proof.)
11. This set of matrixs are all invertible.  $\rightarrow$  This set consists of invertible matrices.
12. If the integral = 0 the function is undefined.  $\rightarrow$  If the integral equals 0, then the function is undefined.
13. Purely imaginary is when the real part is zero.  $\rightarrow$  Purely imaginary means that the real part is zero. (If the real part is zero, then the number is purely imaginary.)
14. Construct the set of vertex of triangles.  $\rightarrow$  Construct the set of all vertexes of triangles.
15. From the fact that  $x = 0$ , I can't divide by x.  $\rightarrow$  Since x is zero, I can't divide by x. (I can't divide by  $x$ , because  $x = 0$ .)
16. A circle is when major and minor axis are the same.  $\rightarrow$  A circle is a shape with equal major and minor axes.
17. The function f is not discontinuous.  $\rightarrow$  The function f is continuous.
18. Plug-in that expression in the other equation.  $\rightarrow$  Add that expression to both sides of the other equation.

19. I found less solutions than I expected.  $\rightarrow$  I found fewer solutions than I expected.
20. When the discriminant is  $< 0$ , you get complex.  $\rightarrow$  You get complex results if the discriminant is negative. (If the discriminant is negative, you get complex results.)
21. We prove Euler theorem.  $\rightarrow$  We prove Euler's theorem.
22. The definite integral is where you don't have integration limits.  $\rightarrow$  An integral is definite when it doesn't have integration limits. (If an integral doesn't have integration limits, it is definite.)
23. The asymptotes of this hyperbola are orthogonal.  $\rightarrow$  The asymptotes of this hyperbola are orthogonal.
24. A quadratic function has 1 stationary point.  $\rightarrow$  A quadratic function has only one stationary point.
25. The solution is not independent of  $s$ .  $\rightarrow$  The solution depends on  $s$ .
26.  $a$  is negative  $\therefore \sqrt{a}$  is complex.  $\rightarrow$   $a$  is negative, therefore  $\sqrt{a}$  (square root of  $a$ ) is complex.
27. Thus  $x = a$ . (We assume that  $a$  is positive).  $\rightarrow$  Thus  $x = a$ . (We assume that  $a$  is positive.)
28. Each value is greater than their reciprocal.  $\rightarrow$  Each value is greater than its reciprocal.
29. Remember to always check the sign.  $\rightarrow$  Always remember to check the sign.
30. Differentiate  $f$   $n$  times.  $\rightarrow$  Differentiate function  $f$ , repeating this process  $n$  times.