

## Exercise 1

November 3, 2023

### Improve The Writing:

1. There are 3 special cases.  $\rightarrow$  There are three special cases.
2. It does not tend to infinaty.  $\rightarrow$  It does not tend to infinity.
3.  $\therefore c^{-1}$  is undefined.  $\rightarrow$  therefore  $c^{-1}$  is undefined.
4. We square the equation.  $\rightarrow$  We square both sides of the equation.
5.  $x^2 = y^2$  are two othogonal lines.  $\rightarrow$  The equation  $x^2 = y^2$  represents two orthogonal lines.
6. This set of matrixs are all invertible.  $\rightarrow$  This set consists of invertible matrices.
7. 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.)
8. 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  $x = 0$ .)
9. The function  $f$  is not discontinuous.  $\rightarrow$  The function  $f$  is continuous.
10. The solution is not independent of  $s$ .  $\rightarrow$  The solution depends on  $s$ .

### Exercise 1:

1.  $X$  is a finite set.  $\rightarrow$  The set  $X$  is finite.
2. It follows  $x - 1 = y^4$ .  $\rightarrow$  hence(it follows that)  $x - 1 = y^4$ .
3. 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.)
4. We have less solutions than we had before.  $\rightarrow$  We have fewer solutions than we had before.
5. Let us device a strategy for a proof.  $\rightarrow$  here is a strategy for the proof. (Let us consider/use/find a strategy for the proof.)
6. If the integral  $= 0$  the function is undefined.  $\rightarrow$  If the integral equals 0/zero, then the function is undefined.
7. Construct the set of vertex of triangles.  $\rightarrow$  Construct the set of all vertices of triangles.

8. A circle is when major and minor axis are the same.  $\rightarrow$  A circle is a shape with equal major and minor axes.
9. Plug-in that expression in the other equation.  $\rightarrow$  Add that expression to both sides of the other equation.
10. I found less solutions than I expected.  $\rightarrow$  I found fewer solutions than I expected.
11. 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.)
12. We prove Euler theorem.  $\rightarrow$  We prove Euler's theorem.
13. The definite integral is where you don't have integration limits.  $\rightarrow$  An integral is definite when it has integration limits. (If an integral has integration limits, it is definite.)
14. The asymptotes of this hyperbola are orthogonal.  $\rightarrow$  The asymptotes of this hyperbola are orthogonal.
15. A quadratic function has 1 stationary point.  $\rightarrow$  A quadratic function has only one stationary point.
16. The solution is not independent of  $s$ .  $\rightarrow$  The solution depends on  $s$ .
17.  $a$  is negative  $\therefore \sqrt{a}$  is complex.  $\rightarrow$   $a$  is negative, therefore  $\sqrt{a}$  (square root of  $a$ ) is complex.
18. Thus  $x = a$ . (We assume that  $a$  is positive).  $\rightarrow$  Thus  $x = a$ . (We assume that  $a$  is positive.)
19. Each value is greater than their reciprocal.  $\rightarrow$  Each value is greater than its reciprocal.
20. Remember to always check the sign.  $\rightarrow$  Always remember to check the sign.
21. Differentiate  $f$   $n$  times.  $\rightarrow$  Differentiate function  $f$ , repeating this process  $n$  times.