Additional Mathematics Exercise 11 Answers

(*Loci and Parametric Equations*)

1. $x = \frac{1}{2}$
2. $8x^2 + 4y^2 - 8xy - 9 = 0$
3. $x + y = 0$
4. $5x^2 + 9y^2 - 20x - 25 = 0$
5. $91x^2 + 100y^2 + 300x - 1600 = 0$
6. $x^2 + y^2 - 2x - 3y - 3 = 0$
7. (a) $y^2 - 4x = 0$ (b) $3x^2 + 4y^2 - 10x + 3 = 0$
8. $y = 5$ or $y = -5$
9. $7x - 7y + 4 = 0$
10. (a) $x = 3y^2 - 5y + 2$ (b) $x^2 - 4xy + 4y^2 - 22x + 28y + 73 = 0$
11. $\frac{y^2}{16} - \frac{x^2}{9} = 1$
12. $x^2y - 2x^2 + 1 = 0$
13. $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$
14. (a) $x = t^4, y = t^5$ (b) $x = \frac{2}{t^2 - 1}, \ y = \frac{2t}{t^2 - 1}$
15. (a) – (b) $y = 2x^2$
16. (a) $\left(-\frac{1}{2t}, \frac{1}{2}\right)$ (b) $y = \frac{1}{2}$, exclude $\left(0, \frac{1}{2}\right)$
17. (a) $y = -x$, $(x, y) \neq (0, 0)$ (b) $y = 4x$
18. $2y = x^2$
19. $x^2 - 2y + 2 = 0$
20. (a) $c > -\frac{3}{8}$ (b) $x = -\frac{1}{4}$ with $y > \frac{3}{8}$
21. (a) – (b) $36x^2 + 150y^2 - 288x + 575 = 0$