Ques 1 - 20	Ques 21 - 40
1. $f(x) = (x-1)(2x+5)(x-1)$ 2. $(x+4)^2 - 13$ Min T.P at $(-4, -13)$ 3. 2 4. $x = \frac{2\pi}{3}$ for $\frac{\pi}{2} \leq x \leq \pi$ 5. $\sin(x+a) = \frac{4}{5}sinx + \frac{3}{5}cosx$ 6. $\frac{dy}{dx} = 12x^2 + 10x - 3$ 7. Max T.P at $(-1, 17)$ and Min T.P. at $(3, -15)$ 8. $\frac{-2x^{-3}}{3} + \frac{1}{5}sin5x + C$ 9. $y = 4x^2 - 3x - 3$ 10. $k = 2$ and $a = 30°$ 11. $x \leq 3$ 12. $a = 2 \quad b = 3$ 13. 1: 2 14. 26 15. $sin60 = \frac{\sqrt{3}}{2} \quad tan\frac{\pi}{6} = \frac{1}{\sqrt{3}}$ 16. $m = -1$ 17. $y = -3x + 10$ 18. $(x+7)^2 + (y-6)^2 = 36$ 19. $u_{12} = 8.7$ 20. Area = 32 square units	21. $f(x) = (x-1)(x+2)(x-1)$ 22. $q = 5$ 23. $x = 2$ 24. $x = \frac{\pi}{6}, \frac{11\pi}{6}$ 25. $cos2x = \frac{-3}{5}$ 26. $f'(x) = 3x(4-3x^2)^{\frac{-3}{2}}$ 27. $Max\ T$.P. at (-1, 4) and Min T.P. at (1, 0) 28. $\frac{8}{3}x^{\frac{3}{2}} - \frac{1}{2}x^{-2} + C$ 29. $y = \frac{-1}{3}cos3x + \frac{7}{6}$ 30. $\sqrt{2}\sin(x - \frac{\pi}{4})$ 31. $f(g(x)) = 3x^2 - 5 \quad g(f(x)) = 9x^2 + 6x - 1$ 32. $a = 3 \quad b = 3$ 33. $k = 4$ 34. $\overrightarrow{DE} = 3\overrightarrow{EF}$ so $\overrightarrow{DE}$ and $\overrightarrow{EF}$ are parallel. E is a common point so D,E,F are collinear. 35. Proof. 36. $3y + 5x = -13$ 37. $m_{PS} = \frac{7}{4}$ 38. $4y + 5x = 71$ 39. $L = -400$ 40. Area = $12\frac{3}{20}$ square units.
Ques 41 - 60	Ques 61 - 80
41. $Y = 3(x-1)(x-4)$ 42. $x > 3 \quad x <$ -2 43. $log_a 5$ 44. $x = 0°, 60°, 300°, 360°$ 45. $\sin(p+q) = \frac{2+2\sqrt{5}}{3\sqrt{5}}$ 46. $\frac{dy}{dx} = 6x^5 + 24x^2$ 47. $y = 6x - 18$ 48. $-2\cos(2x+3) + C$ 49. $9\frac{1}{3}$ 50. $\sqrt{13}\sin(x - 303.7)$ 51. 0.5 52. Correct shape, Min T.P at (-4, -4) Max T.P. at (-1, 1) 53. $\begin{pmatrix} 8 \\ -4 \\ -5 \end{pmatrix}$ 54. $x = 1$ 55. Proof 56. $m = \frac{1}{\sqrt{3}}$ 57. $3y - x - 8 = 0$ 58. Centre $(-4, -2)$ radius=$\sqrt{58}$ 59. $u_3 = 29$	61. $(x-1)(x+4)(x+5)$ 62. $k = \frac{9}{8}$ 63. -4 64. $x = 60°, 132°, 228°, 300°$ 65. $cos2a = \frac{7}{25}$ 66. 14π 67. $y = -x + 1$ 68. $\frac{x^{-3}}{-9} + C$ 69. 1 70. $5\cos(x + 306.9°)$ 71. $f(g(x)) = x^2 + 8x + 19 \quad g(f(x)) = x^2 + 7$ 72. $q = 13$ 73. 3:2 74. $\frac{9}{2}$ 75. $120° = \frac{3\pi}{4}$ and $\frac{2\pi}{3} = 120°$ 76. 5 units 77. $y = 4x + 4$ 78. $J(-1, -2) \quad K(1, 2)$ 79. $l = 100/3$ 80. $Area = \frac{27}{4}$square units