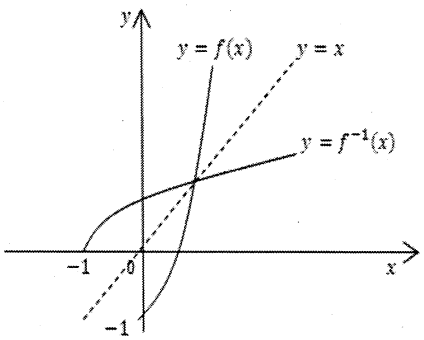
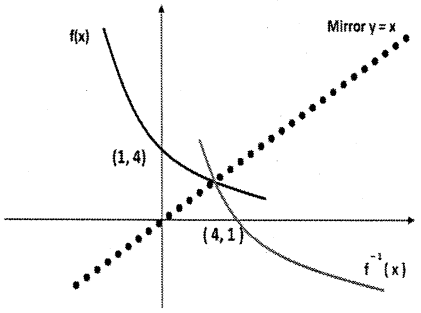
June 2011 Intake – P1	June 2011 Intake – P6
1. $x = 60^0, 150^0, 240^0, 330^0$ 2. (i) $128 + 448kx + 672k^2x^2 + \ldots$ (ii) $k = 4$ 3. (i) 0.614 (ii) AG 4. (i) (-1/2, -1) & (1/2, 3) (ii) $y = 1 - \frac{1}{4}x$ 5. (i) $(3x + 2)^2 + 3$ (ii) $x > 2/3$ & $x < -2$ (iii) $0 < \frac{1}{9x^2+12x+7} \leq \frac{1}{3}$ 6. (i) $n = 50{,}000r^{n-1}$ (ii) AG (iii) 2023 (iv) 760,000 7. (i) $4\mathbf{k} + 3\mathbf{j}$ (ii) $\lvert\overrightarrow{OM}\rvert = 5$ (ii) AG (iii) $\theta = 101^0$ 8. $(i) fg(x) = 4x - 1, gf(x) = \sqrt{4x^2 - 1}$ (ii) A = 0 (iii) graph (iv) $x = \frac{1}{2}, \frac{\sqrt{2}}{2}$  9. (i) x – coordinate of A = 2 and of B = 10/3 (ii) maximum point (iii) 100/3	

Jan 2011 Intake – P1	Jan 2011 Intake – P6
1. Curve lies above the x – axis. 2. (i) $256 + 1024x + 1792x^2$ (ii) 448 3. (i) $15 \sin 2\theta + \sin\theta - 2 = 0$ (ii) $\theta = 19.5, 160.5, 203.6, 336.4$ 4. (i) $n = 20$ (ii) can't be formed 5. (i) AG (ii) Perimeter $= 27 - 9\sqrt{3} + 3\pi$ 6. (i) $p = 3$ (ii) $y = 3x - \frac{1}{2}x^2 + 3$ 7. (i) $\frac{2}{3}\boldsymbol{i} + \frac{1}{3}\boldsymbol{j} + \frac{2}{3}\boldsymbol{k}$ (ii) $\sqrt{21}$ (iii) $\theta = 27.3$ 8. (i) $y = -3x - 8$ (ii) 6π 9. (i) $x + y = 10$ (ii) D = (4.4, 5.6) 10. (i) A = 4 (ii) $f^{-1}(x) = 4 - \sqrt{(x - 1)}$ (iii)  11. (i) (0, 0) minimum and (4, 32) maximum (ii) $x < 0$ and $x > 4$ (iii) $y = 12x - 8$	

June 2010 Intake – P1	June 2010 Intake – P6
1. (i) $1+6x+12x^2+8x^3...$; (ii) 19 2. (a) $x \le 3, \quad x \ge 5$ (b) $m = 3$ 3. (i) 38.0 (ii) 39.9 4. (i) C(14,16) (ii) P(7,5) 5. (a) Show; (ii) $x = \pm 15°, \pm 75°, \pm 105°, \pm 165°$ 6. (i) $-3 \le f(x) \le 15$; (ii) Not one to one (iii) k =2; (iv) $g^{-1}(x) = \sqrt{\frac{x+3}{2}} + 2$ 7. (i) $i+3j+8k$ (ii) 60°,(iii) 18.2 8.(a) $\frac{n+2}{2}(-1+d(2m-1+n))$ (b) (8,4) 9. (i)Show; (ii) Show ; (iii) 3.77 10. (i) (0,0) (4,2) ; (ii) $\frac{4}{3}$; (iii) $\frac{64\pi}{15}$	

Jan 2010 Intake – P1	Jan 2010 Intake – P6
1. $-1 < q < 2$ 2.(i) $1-12x+54x^2-100x^3...$; (ii) 0.24 3. Prove. (ii) 39.2°,140.8°,219.2°, 320.8°. 4. (i)A(-4,3) B(6,8) (ii)Show 5. $\frac{-16}{15\pi}$ 6. (i)54.2°; (ii) $c = \frac{38}{5}$ 7. (a) $a = \frac{-3}{2}d$; (b)(i) $q = 2p$; (ii) 2 8. (i) -20,12; (ii) $x = 6$; (iii) $-(x-4)^2+28$ (iv) Sketch 9. (i) $r = \frac{200}{9}$; (ii) 99.8 ; (iii) 95.6 10. (a) (i) $\frac{2}{3}(x-1)^{3/2}+c$ (b) (i) $y = -2x+5$ (ii) $\frac{11}{12}$	

June 2009 Intake – P1	June 2009 Intake – P6
1. $\frac{51}{175}$ 2. $\cos\theta = \frac{1}{3}$ 3. (a) 3; (b) 366 4. (i) $r = 6,\quad h = 12$;(ii) 678.58 5. (i) $y = 11x - 9$;(ii) $y = -x + 5$;(iii)$(\frac{7}{6}, \frac{23}{6})$ 6. (i) 108;(ii) 1.85rad;(iii) 125.55 7. (i) 68.2°, 248.2°;(ii) 68.2°, $\leq x \leq$248.2° 8. (i) $2y - 3x + 8 = 0$; (ii) 10.8 9. (i) $g(x) = \frac{x+1}{x-1}, x \neq 1$; (ii) $h^{-1}(x) = \sqrt{x+1}\quad, x \geq 1$ (iii) Sketch 10. (i) $(x+1)^2 \geq 0$; (ii) $x = 1$ (iii) $x \leq -3,\quad x \geq 1$ 11. (a) (i)Show ;(ii)Show ; (b)(i) $y = \frac{b}{a}x$ (ii) Show	

Jan 2012 Intake – P1	Jan 2012 Intake – P6