

AS Trial - Paper 1 (January 2011 Intake)

1. 210

2. -

3. $0^\circ, 180^\circ, 360^\circ, 45^\circ, 225^\circ$

4. (i) A(12, 2) B(-4, -6) (ii) $2x + y = 6$

5. (i) (-2, 3) maximum (ii) decreasing (iii) $2y = x - 4$

6. (ii) $-\frac{1}{2}\underline{i} + \frac{\lambda}{2}\underline{j} + \frac{1}{2}\sqrt{15-\lambda^2}\underline{k}$, $\underline{i} + \lambda\underline{j}$ (iii) 70.4°

7. (i) 4, -2 (ii) 36 (iii) $81\frac{1}{15}\pi$

8. (i) $|x| < \sqrt{2}$, $\frac{4}{7}$ (ii) 11250

9. (i) 9.32 (ii) 17.8 (iii) 4.53

10 (i) $f(x) \leq 2$ (ii) f is not one-one. (iii) 2

(iv) $g^{-1}(x) = \begin{cases} x+1, & x < 0 \\ 2 - \sqrt{\frac{2-x}{2}}, & 0 \leq x \leq 2 \end{cases}$

Paper 6

1. 0.7814

2. $\mu = 15.9$ $\sigma = 47.2$

3. (a) (i) 4320 (ii) 2880 (b) 10

4. (i) 9.5×10^{-5} (ii) 5.95×10^{-4} (iii) 0.160

5. (i) 0.1587 (ii) 11.056 (11.1), 14.2 (iii) 0.337

6. (ii) - (iii) -

7. (i) $Q_2 = 1.85$ IQR = 0.80 (ii) 1.95 (iii) 0.0157

AS Trial - June 2011 Intake (Paper 1)

1. $A(1, 3)$ $B(-4, 8)$

2. $14\frac{2}{3}$

3. (i) $\frac{70}{27}x^4$, $\frac{70}{243}x^6$ (ii) $\frac{1960}{243}$

4. (b) $0^\circ, 180^\circ, 221.8^\circ, 318.2^\circ, 360^\circ$

5. (i) $\frac{2\sqrt{3}}{3} : 1$ (ii) $\frac{2\sqrt{3}}{3} - \frac{2}{9}\pi$

6. (i) $\frac{1}{\sqrt{\frac{195}{4}}} \begin{pmatrix} \frac{11}{2} \\ \frac{5}{2} \\ -\frac{7}{2} \end{pmatrix}$ (ii) 45.3° (iii) 3.54

7. (a) 0.05 $n=124$ (b) $\frac{1}{3}$

8. (ii) 8 (iii) 512π (iv) maximum

9. (i) $(2x-3)^2 - 5$ (ii) $x = \frac{3}{2}$ (iii) $x \leq -1$ or $x \geq 4$

(iv) $k = \frac{3}{2}$ (v) $f^{-1}(x) = \frac{3 - \sqrt{x+5}}{2}$

Paper 6

1. (i) $a = 15$ (ii) 1215.39

2. (a) (i) 720 (ii) 2520 (b) 36

3. (iii) 2.11, 2.88

4. (b) (i) 0.590 (ii) 0.349

5. (i) IQR = 18.5 (polygon), 19 (curve) (iii) ~~176~~ 120

6. (i) 0.332 (ii) 52.8 (iii) 0.5426

7. (i) 0.8904 (ii) 0.0548 (iii) ~~440.80~~ 439.72