J.M.J.

MARCELLIN COLLEGE RANDWICK

YEAR 9

ADVANCED 2 MATHEMATICS

ASSESSMENT TASK # 2

2005

Weighting: 10% of Assessment Mark.

STUDENT NAME: _____ MARK: _____ /52

PERCENTAGE:

Time Allowed: 1 period.

Directions:
- Answer all questions on the paper
- Show all necessary working.
- Marks may not be awarded for careless or badly arranged work.

1.   Simplify the following expressions

a) $5y^2 + 2y - 4y^2$ (1)   b) $2xy \times 4yx$ (1)

c) $3a \div 15a$ (1)   d) $5t - 12s - 8t + 3s$ (1)

e) $4m^3n \times 5mn^2 \times 3m$ (2)   f) $28x^3y^3 \div 7x^2y$ (2)

2.   Expand the following expressions and simplify where possible

a) $5(x + 3)$ (1)   b) $-x(3 - 2x)$ (1)

c) $7p - 2 - (3p + 4)$ (2)   d) $(3x + 2)^2$

3. Factorise fully /20

a) $4x + 12y$ (1)

b) $-8a - 24b$ (1)

c) $12m^2 - 36m$ (1)

d) $xy + 2x + 2y + 4$ (2)

e) $12xy - 8 + 3x^2y - 2x$ (2)

f) $x^2 - 36$ (1)

g) $3y^2 - 48$ (2)

h) $p^2 - 3p - 28$ (1)

i) $x^2 - 12x + 27$ (1)

j) $2x^2 + 10x + 12$ (2)

k) $4x^2 + 8x - 5$ (3)   l) $2x^2 - 11x - 6$ (3)

4.   Simplify the following expressions   **/ 18**

a) $\dfrac{5}{10y - 25}$ (2)   b) $\dfrac{x^2 - 3x}{4x - x^2}$ (2)

c) $\dfrac{x^2 + 7x + 12}{x^2 + 4x + 3} \times \dfrac{x^2 - 6x - 7}{x^2 + 2x - 8}$ (5)   d) $\dfrac{7}{3x} - \dfrac{1}{x + 2}$ (4)

e) $\dfrac{x+1}{x^2+4x+4}+\dfrac{x-2}{x^2+x-2}$ (5)

/ 20

5. Solve the following equations

a) $y-3=10$ (1)

b) $6x+2=14$ (2)

c) $\dfrac{5-x}{2}=-4$ (3)

d) $x-15=20-4x$ (2)

e) $7(5-2x)-3(1-3x)=1$ (3)

f) $\dfrac{x}{3}-\dfrac{x}{5}=3$ (3)

g) $\dfrac{a}{a-3}=4$ (3)

h) $\dfrac{x-1}{4}=\dfrac{x-5}{2}$ (3)

Qu① 1

a) $y^2 + 2y$

b) $8x^2 y^2$

c) $\frac{1}{5}$

d) $-3t - 9s$

e) $60 m^5 n^3$

f) $4xy^2$

Qu② 2

a) $5x + 15$

b) $-3x + 2x^2$

c) $4p - 6$

d) $9x^2 + 12x + 4$

Qu③ 3

a) $4(x + 3y)$

b) $-8(a + 3b)$

c) $12m(m - 3)$

d) $(x + 2)(y + 2)$

e) $(4 + x)(3xy - 2)$

f) $(x - 6)(x + 6)$

g) $3(y + 4)(y - 4)$

h) $(p - 7)(p + 4)$

i) $(x - 9)(x - 3)$

j) $2(x + 2)(x + 3)$

k) $(2x + 5)(2x - 1)$

l) $(x - 6)(2x + 1)$

Qu④ 4

a) $\frac{x}{2y} - 5$

b) $\frac{x - 3}{4 - x}$

c) $\frac{x - 7}{x - 2}$

d) $\frac{4x + 14}{3x(x + 2)}$

e) $\frac{2x^2 - 5}{(x + 2)(x + 2)(x - 1)}$

Qu⑤ 5

a) $y = 13$

b) $x = 2$

c) $x = 13$

d) $x = 7$

e) $x = 3\frac{1}{5}$

f) $x = 22\frac{1}{2}$

g) $a = 4$

h) $x = 9$