L.J.E
GRADE 9

ALEXANDER ROAD HIGH SCHOOL

FS MATHEMATICS

March 2025
TIME: 35 MINS
TOTAL: 30

1 Simplify: $3(4a-1)(4a+1) - (2a-1)^2$ (6)

$= 3(16a^2-1) - (4a^2-2a-2a+1)$

$= 48a^2 - 3 - 4a^2 + 2a + 2a - 1$

$= 44a^2 + 4a - 4$

[6]

2. Factorise the following:

2.1 $3a^2y^2 - 27a^2p^2$ $= 3a^2(y^2 - 9p^2)$

$= 3a^2(y-3p)(y+3p)$ (2)

2.2 $2a^2 - 16a + 32$ $= 2(a^2 - 8a + 16)$

$= 2(a-4)(a-4)$ (3)

2.3 $6a^2 - 13a + 6$ $= (3a-2)(2a-3)$

$(3a-2)(2a-3)$: $6a$, $-4a$, $-9a$, $-13a$ (2)

2.4 $6a^2 + 5a - 6$

$(3a-2)(2a+3)$: $-4a$, $+9a$, $5a$ (2)

2.5 $a^2(p-2b) - (p-2b)$ $= (p-2b)(a^2-1)$

$= (p-2b)(a+1)(a-1)$ (3)

2.6 $75a^2 - 27y^2$ $= 3(25a^2 - 9y^2)$

$= 3(5a-3y)(5a+3y)$ (2)

2.7 $2a^4 - 26a^2 + 72$ $= 2(a^4 - 13a^2 + 36)$ ✓

$= 2(a^2 - 9)(a^2 - 4)$ ✓✓

$= 2(a-3)(a+3)(a-2)(a+2)$ ✓ ✓

(5)

[19]

3. Given: $(a-1)^2 = a^2 - 2a + 1$

3.1 Complete: 3.1.1 $(a-2)^2 = \ldots (a-2)(a-2)$

$= \ldots a^2 - 4a + 4$ (2)

$(a-1)^2 = (a-1)(a-1)\ a^2 - 2a + 1$

3.1.2 $(a-3)^2 = \ldots (a-3)(a-3)$

$= \ldots a^2 - 6a + 9$ (1)

$p = 7$

$(a-7)^2 = a^2 - 14a + 49$

3.2 If $(a-p)^2 = a^2 - 14a + c$, find the value of c. $= 49$ (2)

[5]