**End of Unit Test** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Simplifying and Substituting - HIGHER**

1) (a) Factorise *x*2 + 10*x* + 24

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Answer ......................................................................

**(2)**

(b) Hence or otherwise, solve *x*2 + 10*x* + 24 = 0

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Answer ......................................................................

**(1)**

**(Total 3 marks)**

3) (a) Expand and simplify (6*x* – 1)(2*x* + 3)

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 …………………………………………………………………………………………………..

Answer ...................................................................................

**(2)**

(b) Solve 4*x*2 + *x* – 3 = 0

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Answer ...................................................................................

**(3)**

**(Total 5 marks)**

3) Simplify $\frac{4x^{2}-1}{4x^{2}+12x+5}$

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Answer ...................................................................................

**(Total 3 marks)**

4) Expand and simplify     (2*x* + 5)(2*x*− 5)(3*x* + 7)

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Answer ...................................................................................

**(Total 3 mark)**

5) For all values of *x*, f(*x*) = *x*2 + 1 and g(*x*) = *x* − 5

(a) Show that     fg(*x*) = *x*2 − 10*x* + 26

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**(2)**

(b) Solve fg(*x*) = gf(*x*)

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*x* = ....................................................................

**(4)**

**(Total 6 marks)**

**(Total for test = 20 marks)**