

Name: _____

Pre-Assessment: Part 1

Teacher: A. Houghton

Cambridge International A Level Mathematics

1 Substitute $g(x) = x^2$ into the following functions

1.1 $f(x) = \sin(x)$

1.2 $f(x) = x^2 + 4x + 6$

1.3 $f(x) = \log(x)$

2 Find the maximum or minimum of the following quadratics

2.1 $y = 6x^2 + 6x + 4$

2.2 $f(x) = x^2 + 2x + 1$

3 Factor the following polynomials

3.1 $y = x^2 - 7x - 18$

3.2 $f(x) = x^2 + 5x$

3.3 $p^2 - 9p + 8$

4 Graph the following equations

4.1 $y = e^x$

4.2 $f(x) = \log(x)$

4.3 $y = \ln(x)$

4.4 $y = \sin(x)$

4.5 $f(x) = 5\cos(x)$

4.6 $y = \frac{1}{2}\tan(x)$

4.7 $y = \sin(5x + 4)$

4.8 $y = \cos(x) + 2$

4.9 $y = 3x - 5$

5 State the y and x intercepts of the following

5.1 $y = 6x - 1$

5.2 $f(x) = -3 + 5$

6 Write the following trig functions in a different form

6.1 $\tan(\theta)$

6.2 $\csc(x)$

6.3 $\cot(\theta)$

6.4 $\sec(x)$

7 Solve the following equations for x

7.1 $\ln(x) = 7$

7.2 $e^{4x} = 4$

7.3 $a^{3x} = 1$

7.4 $4 = 5\log(x)$

7.5 $6\log(x + 5) = 9$

8 Complete the square and solve for x on the following problems

8.1 $x^2 + 6x = -2$

8.2 $8x^2 + 16x = 4$