

(C1-7.8) Name:

Homework Questions 8 – Equation of Tangents & Normals

1. Find the equation of the tangent to the curve $y = 3x^2 + 5x + 2$ at the point (3,44)

2. For the curve given below, find the gradient of the tangent at the point (4,123)

$$y = 7x^2 + 4x - 5$$

3. Find the equation of the tangent to the function below at the point (1,11)

$$f(x) = 8x^2 + 3x$$

4. If a tangent cuts a curve at (2,7) and has a gradient of -2,
What is the equation of the tangent?

5. Find the gradient of the function at the point (2,36)

If the equation of the curve is $f(x) = 4x^2 + 9x + 2$

6. What are the coordinates of the point on the curve $y = 4 - x^2$ where the gradient of

$\frac{1}{4}$
the normal is $\frac{1}{4}$

7. Find the equation of the normals to the curve $y = x^2 - 5$ at the point (2,-1)

8. What is the equation of the tangent to the curve $y = 3x^2 - 9x$ at the point where $x=4$

9. What is the equation of the normal to the curve $y = x - x^2 + 2x^3$ at the point where $x=-1$

10. Find the equation of the normal to the curve $y = x^2 + 5x + 1$ at the point where the tangent gradient at this point is 2