

MATH 103 200710 Quiz 1

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Please do both of the following problems. Each problem is worth 10 marks. You have 20 minutes to finish the quiz.

1. A company manufactures and sells widgets. The company has a fixed cost of \$2000 per day and a total cost of \$2500 per day when the production is set at 50 widgets per day. Assume that the total cost $C(x)$ is a linear function of the daily production level x .
 - (a) Express the total daily cost as a function of the daily production level.
 - (b) Find $C(100)$.
 - (c) Find $C'(100)$.
 - (d) What is the marginal cost of raising the daily production level from 100 to 101 rods?

2. Find an equation of the tangent to the graph of $y = x^4$ which is parallel to the line $2y + 8x = 5$.