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pts pts

Math 105 Exam I. 1.6in Name: ————————————————————

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February 2, 1999 1.9in Instructor's name: ————————————————

0.2in

3.15in Time of MWF class: ——————————————

0.2in

Show all work and put your answers in the spaces provided. You will receive no credit if the answer is not in the space provided and no partial credit for a wrong answer if you do not show your work. Answers may be approximated by decimals if desired, but full points will be also be awarded for correct answers left in exact form as fractions.

0.2in

Sections of the course: tabbing Section 01 0.2in $\bar{\text{B}}$rown 0.2in $\bar{\text{M}}$WF 10:40-11:30 am

questions

[6] Suppose that a baker can sell a cake for \$7, so the revenue function is $R(q) = 7q$. The baker estimates the cost of making q cakes to be $C(q) = 2q + 600$. What is the baker's profit function?

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[4] What is the y-intercept of the line $-3x + 4y = 2$?

1in

[4] What is the slope of the line through the points $(1, 1)$ and $(3, -5)$?

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[6] What is the equation of the line which goes through the point $(0, 3)$ and which is parallel to the line $y = -4x + 5$?

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[5] Let $f(x) = x - 7x + 1$. Find $f(a + 2)$.

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[8] Let $f(x) = 2x^2 - 8x - 5$. Complete the square in this quadratic function. (We are looking for an answer of the form "$f(x) = A(x + B)^2 + C$".)

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[5] Find the domain of the function $f(x) = \sqrt{x + 3}$.

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[5] Compute $(1/8)^{2/3}$. Express your answer as a fraction.

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A local theater owner realizes that when she charges \$18 per ticket, she averages 200 people per night. When she raises prices to \$21, the attendance drops to 170. Let p denote the ticket price, and let q denote the demand (the attendance).

parts

[6] Assuming that the demand is a linear function of the price, write demand in terms of price.

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[2] If the theater holds 260 people, how much should the owner charge in order to fill the theater to capacity?

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