← MAT2601_ONL8FA_ONL8F_21 - Calculus, Fall 2021

Week 8 Quiz MAT2601 (Homework)

INSTRUCTOR
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SOUTH COLLEGE

Current Score

QUESTION	1	2	3	4	5	6	7	8	9	10
POINTS	–/10	–/10	–/10	–/10	–/10	–/10	–/10	–/10	–/10	–/10

TOTAL SCORE

–/100	0.0%

Due Date

TUE, NOV 23, 2021
11:59 PM EST

Request Extension

Assignment Submission & Scoring

Assignment Submission

For this assignment, you submit answers by questions. You are required to use a new randomization after every 3 question submissions.

Assignment Scoring

Your best submission for each question part is used for your score.

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1. **[-/10 Points]** DETAILS **HARMATHAP12 12.4.003.MI.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Cost, revenue, and profit are in dollars and x is the number of units.

If the marginal cost for a product is $\overline{MC} = 6x + 5$ and the production of 10 units results in a total cost of \$410, find the total cost function.

$C(x) =$

Need Help? Read It Master It

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2. **[-/10 Points]** DETAILS **HARMATHAP12 12.4.005.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Cost, revenue, and profit are in dollars and x is the number of units.

If the marginal cost for a product is $\overline{MC} = 180 + 0.15\sqrt{x}$ and the total cost of producing 100 units is \$45,000, find the total cost function.

$C(x) =$

Find the fixed costs (in dollars).

\$

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3. **[-/10 Points]** DETAILS **HARMATHAP12 12.4.017.** 0/15 Submissions Used

MY NOTES | ASK YOUR TEACHER

If consumption is \$7.9 billion when income is \$1 billion and if the marginal propensity to consume is

$$\frac{dC}{dy} = 0.5 + \frac{0.2}{\sqrt{y}} \quad \text{(in billions of dollars)}$$

find the national consumption function.

$C(y) =$

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4. **[-/10 Points]** DETAILS **HARMATHAP12 12.4.022.** 0/15 Submissions Used

MY NOTES | ASK YOUR TEACHER

Suppose that the marginal propensity to consume is

$$\frac{dC}{dy} = 0.3 - e^{-0.5y} \quad \text{(in billions of dollars)}$$

and that consumption is \$7.5 billion when disposable income is \$0. Find the national consumption function.

$C(y) =$

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5. **[–/10 Points]** DETAILS **HARMATHAP12 12.4.026.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

If consumption is \$6 billion when disposable income is \$0, and if the marginal propensity to save is

$$\frac{dS}{dy} = 0.8 + e^{-1.5y} \quad \text{(in billions of dollars)}$$

find the national consumption function.

$C(y) =$

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6. **[–/10 Points]** DETAILS **HARMATHAP12 12.5.005.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Use integration to find the general solution to the differential equation. (Use C for the constant of integration.)

$$dy = xe^{x^2 + 3}\,dx$$

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7. **[-/10 Points]** DETAILS **HARMATHAP12 12.5.009.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Use integration to find the general solution to the differential equation. (Use C for the constant of integration.)

$$9y^2\,dy = (2x - 1)\,dx$$

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8. **[-/10 Points]** DETAILS **HARMATHAP12 12.5.015.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the general solution to the given differential equation. (Use C for the constant of integration.)

$$\frac{dy}{dx} = \frac{x^3}{y}$$

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9. **[–/10 Points]** DETAILS **HARMATHAP12 12.5.024.MI.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the general solution to the given differential equation. (Use C for the constant of integration.)

$$\frac{dy}{dx} = \frac{x^2 + x}{y + 5}$$

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10. **[–/10 Points]** DETAILS **HARMATHAP12 12.5.033.** 0/15 Submissions Used

MY NOTES ASK YOUR TEACHER

Find the particular solution to the differential equation.

$x^2e^{6y}\,dy = (x^3 + 3)\,dx$ when $x = 3$, $y = 0$

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