3.3: Derivatives of Trigonometric Functions (Homework)

INSTRUCTOR
Francis Adjei
Texas A&M University at Galveston

Past Due **Due Date:** SAT, FEB 28, 2026 11:59 PM CST

Current Score: 20 / 20 POINTS | 100.0 %

Due date has passed. No changes can be made without an approved extension request.
You may not be granted an extension if you have already viewed the answer key.

VIEW ANSWER KEY

Scoring and Assignment Information

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

Assignment Submission

For this assignment, you submit answers by question parts. The number of submissions remaining for each question part only changes if you submit or change the answer.

Assignment Scoring

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

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1. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 3.3.005.

Differentiate.

$$h(\theta) = \theta^2 \sin(\theta)$$

$h'(\theta) =$

$$\theta 2\cos(\theta)+2\theta\sin(\theta)$$

Perfect!

Resources

Read It

2. **[3 / 3 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.3.009.EP.

Consider the following.

$$g(\theta) = \theta - \cos(\theta)$$
$$h(\theta) = \sin(\theta)$$

Find $g'(\theta)$ and $h'(\theta)$.

$g'(\theta)$ = $$1+sin(\theta)

✔ Fantastic!

$h'(\theta)$ = $$cos(\theta)

✔ Great job!

Differentiate.

$$f(\theta) = (\theta - \cos(\theta)) \sin(\theta)$$

$f'(\theta)$ =
$$sin(\theta)+sin2(\theta)+\theta cos(\theta)-cos2(\theta)

✔ Perfect!

Resources

Read It

3. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.3.015.MI.

Differentiate.

$$y = \frac{4x}{7 - \tan(x)}$$

$y' =$

$$4(x\sec 2(x)+7-\tan(x))(7-\tan(x))2$$

That's it!

Resources

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4. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.3.013.

Differentiate.

$$f(\theta) = \frac{\sin(\theta)}{1 + \cos(\theta)}$$

$f'(\theta) =$

$$1+\cos(\theta)$$

Fantastic!

Resources

Read It

5. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.3.010.

Differentiate.

$$g(\theta) = e^{\theta}(\tan(\theta) - \theta)$$

$g'(\theta) =$

$$e\theta(tan2(\theta)+tan(\theta)-\theta)$$

Good work!

Resources

Read It

6. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.3.012.

Differentiate.

$$f(x) = e^{x}\sin(x) + \cos(x)$$

$f'(x) =$

$$excos(x)+exsin(x)-sin(x)$$

Great!

Resources

Read It

7. **[1 / 1 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.3.007.

Differentiate.

$$y = \sec(\theta)\tan(\theta)$$

$y' =$

$$tan2(θ)sec(θ)+sec3(θ)

✔ Nicely done.

Resources

Read It

8. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.3.030.

Find an equation of the tangent line to the curve at the given point.

$$y = \frac{1 + \sin(x)}{\cos(x)}, \quad (\pi, -1)$$

$$y=x−π−1

✔ Good job!

Resources

Read It

9. **[2 / 2 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER

PRACTICE ANOTHER

SCalcET9 3.3.022.

Differentiate.

$$f(t) = te^t \cot(t)$$

$f'(t) =$

$$-ettcsc2(t)+ettcot(t)+etcot(t)$$

Nicely done.

Resources

Read It Watch It

10. **[3 / 3 Points]**

DETAILS | MY NOTES | PREVIOUS ANSWERS | ASK YOUR TEACHER | PRACTICE ANOTHER

SCalcET9 3.3.019.EP.

Consider the following.

$$f(t) = t \sin(t)$$
$$g(t) = 1 + t$$

Find $f'(t)$ and $g'(t)$.

$f'(t)$ = $$*tcos*(*t*)+*sin*(*t*)

✔ Excellent job!

$g'(t)$ = $$1

✔ Amazing job!

Differentiate.

$$y = \frac{t \sin(t)}{1 + t}$$

y' =
$$*tcos*(*t*)+*t*2*cos*(*t*)+*sin*(*t*)(*t*+1)2

✔ Very nice!

Resources

Read It

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