

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 last submission is used for your score.

1. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.010.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Fill in the blanks in each of the following statements. (Enter your answers for the first answer blank in (a), (b), and (c) using interval notation. Simplify your answers for the second answer blank in (a), (b), and (c) completely.)

For all $x \in$

, $\log_6 x = y$ if and only if $x =$

(a) .

For all $x \in$

, $7^{\log_7 x} =$

(b) .

For all $x \in$

, $\log_3(3^x) =$

(c) .

(d) $\log_6 7$ is the exponent to which you have to raise to get .

2. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.022.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Fill in the blanks. (Enter your intervals using interval notation.)

(a) $\sin^{-1}(x)$ is the angle in the interval

whose is x .

(b) $y = \arcsin(x)$ if and only if $\sin(y) =$

, for all $x \in$

and $y \in$

(c) If $\tan^{-1}(x) = \theta$ and $\tan(\theta)$ is positive, then θ is in the quadrant.

(d) If $\arctan(x) = \theta$ and $\sin(\theta) = \frac{1}{9}$, then $\cos(\theta) =$

3. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.027.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the domain of the function. (Enter your answer using interval notation.)

$$f(x) = \frac{\ln(x + 3)}{\ln(x - 8)}$$

4. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.028.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the domain of the function. (Enter your answer using interval notation.)

$$f(x) = \frac{1}{e^x - e^{5x}}$$

5. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.032.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the domain of the function. (Enter your answer using interval notation.)

$$f(x) = 7 \sin^{-1}(x - 8)$$

6. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.034.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the exact value of the quantity. Do not use a calculator.

$$\log_{1/2} 4$$

7. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.036.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the exact value of the quantity. Do not use a calculator.

$$\frac{\log_2 9}{\log_2 1/3} + \log_2 8$$

8. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.038.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the exact value of the quantity. Do not use a calculator.

$$\cos\left(\frac{56\pi}{4}\right)$$

9. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.039.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the exact value of the quantity. Do not use a calculator.

$$\csc\left(-\frac{4\pi}{3}\right)$$

10. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.041.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the exact value of the quantity. Do not use a calculator.

$$\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$$

11. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.049.

MY NOTES

ASK YOUR TEACHER

Solve the equation by hand. When you are finished, check your answers either by testing your solutions or by graphing an appropriate function. (Enter your answers as a comma-separated list. Use n as an arbitrary integer.)

$$\cos 2x = 1$$

 $x =$

12. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.050.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Solve the equation by hand. When you are finished, check your answers either by testing your solutions or by graphing the appropriate function. (Enter your answers as a comma-separated list. Use n as an arbitrary integer.)

$$\sec^{-1} x = \frac{2\pi}{3}$$

 $x =$

13. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.052.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Suppose that $\sin(\varphi) = \frac{5}{13}$ and $\cos(\varphi) < 0$. Use trigonometric identities to identify the quantity.

 $\sin(-\varphi)$

14. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.053.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Suppose that $\cos(\theta) = \frac{1}{8}$. Use trigonometric identities to identify the quantity.

 $\cos(2\theta)$

15. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.048.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Solve the equation by hand. When you are finished, check your answers either by testing your solutions or by graphing an appropriate function. (Enter your answers as a comma-separated list. Use n as an arbitrary integer.)

$$\sin x = \frac{\sqrt{3}}{2}$$

 $x =$

16. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.058.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Write the expression as an algebraic expression that does not involve trigonometric or inverse trigonometric functions.

$$\tan(\tan^{-1} 7x)$$

17. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.060.

MY NOTES

ASK YOUR TEACHER

Write the expression as an algebraic expression that does not involve trigonometric or inverse trigonometric functions.

$$\sin^2(\tan^{-1}(x))$$

18. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.061.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Write the expression as an algebraic expression that does not involve trigonometric or inverse trigonometric functions.

$$\sin\left(\sec^{-1} \frac{8}{x}\right)$$

19. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.063.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Write the expression as an algebraic expression that does not involve trigonometric or inverse trigonometric functions.

$$\cos(2 \sin^{-1} 2x)$$

20. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.501.XP.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Find the domain and range of the function. (Enter your answers using interval notation.)

$$f(x) = \sin\left(\frac{5}{2x}\right)$$

domain

range

21. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.502.XP.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Calculate directly (without using a calculator).

$$\ln(\sqrt{e} \cdot e^{17/6})$$

22. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.503.XP.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Calculate directly (without using a calculator).

$$\log_{25}(30) + \log_{25}\left(\frac{5}{6}\right)$$

23. [-/4.16 Points]

DETAILS

TAALMANCALC1 0.4.504.XP.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Solve for the unknown variable.

$$49^{-x} = 7^x + 3$$

x =

24. [-/4.32 Points]

DETAILS

TAALMANCALC1 0.4.505.XP.

MY NOTES

ASK YOUR TEACHER

PRACTICE ANOTHER

Express $\cos(2\pi - \theta)$ and $\sin(2\pi - \theta)$ in terms of $\cos \theta$ and $\sin \theta$.

$$\cos(2\pi - \theta) = \frac{\text{[]}}{\text{[]}}$$

$$\sin(2\pi - \theta) = \frac{\text{[]}}{\text{[]}}$$

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