Final Review – Chapters 4, 6, & 7 MA1032 Data, Functions & Graphs

Sidney Butler

Michigan Technological University

December 13, 2006

3

A B A B A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A
A

Suppose that $x = \log A$ and $y = \log B$. Write the following expression in terms of x and y.

$$\log \frac{A}{B}$$

・ロト ・聞 ト ・ 臣 ト ・ 臣 ト … 臣

Three students try to solve the equation

$$11\cdot 3^{\mathsf{X}}=5\cdot 7^{\mathsf{X}}.$$

The first student finds that $x = \frac{\log(11/5)}{\log(7/3)}$. The second finds that $x = \frac{\log(5/11)}{\log(3/7)}$. The third finds that $x = \frac{\log 11 - \log 5}{\log 7 - \log 3}$. Which student (or students) is (are) correct? Explain.



Find a possible formula for the following function.



S Butler (Michigan Tech)

Final Review - Chapters 4, 6, & 7

December 13, 2006 4 / 11

What is the length of an arc which is cut off by an angle of 225° in a circle of radius 4 feet?

イロト イ団ト イヨト イヨト 三日

Find approximations to two decimal places for the coordinates of the point determined by an angle of -72° on a circle of radius 16.

イロト 不得下 イヨト イヨト 二日

What are the special angles/triangles?

æ

• • • • • • • • • • • •

Chapter 6 Review #16

Without a calculator, match the graphs to the following functions: $y = \sin(2t)$ $y = \sin t + 2$ $y = 2\sin t$ $y = \sin(t + 2)$



S Butler (Michigan Tech)

December 13, 2006 8 / 11

Solve for α when $0 \le \alpha < 2\pi$. Given an exact answer if possible.

$$an lpha = \sqrt{3} - 2 \tan lpha$$

イロト イ団ト イヨト イヨト 三日

State the amplitude, period, phase shift, and horizontal shifts for the function. Without a calculator, graph the function on the given interval.

$$y = 3\sin(4\pi t + 6\pi), \ \ \frac{-3}{2} \le t \le \frac{1}{2}$$

イロト 不得下 イヨト イヨト 二日

A UFO is first sighted at a point P_1 due east from an observer at an angle of 25° from the ground and at an altitude of 200 m. The UFO is next sighted at a point P_2 due east at an angle of 50° and an altitude of 400 m. What is the distance from P_1 to P_2 ?

Simplify
$$\frac{1}{1-\sin\theta} + \frac{1}{1+\sin\theta}$$
.