

Name _____

Banner: _____

Instructions for Students using ParSCORE Test Forms

Required Materials (available at campus bookstore):

- ParSCORE Test Form – No. X-101864
- #2 Pencil

Use a #2 Pencil
 Note: Marks made with mechanical, recycled, green, and earth friendly pencils as well as pens **will be marked wrong** by the scanner.

Fill in the entire rectangle to mark your answer. Example answers 1 and 6 will be graded as correct.

Your ID number is the **LAST 8 digits of your BANNER ID**. Drop the first zero on your Banner ID. Example: Student's Banner ID reads "012345678". The ID Number entered on the ParSCORE Test Form is "12345678". *Do not use social security or driver's license number.*

Do Not mark answers with single line, forget to erase errors completely or forget to fill in answers. Example answers 2-5 will be graded as incorrect.

This is Form A

Do not fill in the Exam Number

PRINT your **Name, Course, and Section Number** clearly.

Course = Precal	1093.section
MWF at 9am =>	1093.004
MWF at 10am =>	1093.002
MWF at 2pm =>	1093.003

Separate the pages of the exam and use the back of the paper as scratch paper. I'll have a stapler to staple your exam back together. Grades will be available in WebCT as soon as possible.

Cover your work and your Parscore. Don't cheat or appear to be cheating.

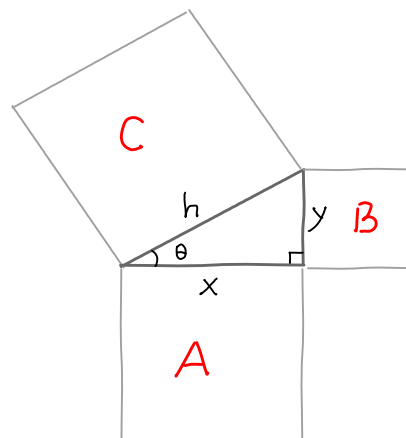
If something is illegible then please notify me. If a question is ambiguous then please ask me to clarify.

DON'T GIVE UP! Do your best on every problem. You are not supposed to already know the answer, you are to figure it out using what you know. Use all of your available time. If you finish early, redo the problems to verify correctness. Don't "check your work" - redo it separately without looking at your previous work.

Circle your answers on this exam and fill in the corresponding bubble on your ParScore.

#1) For the figure below, suppose A, B, and C represent the area of the squares and x, y, and h are the lengths of the sides of the triangle. According to the figure, which of the following statements is always true.

- A) $A^2 + B^2 = \cos^2 \theta + \sin^2 \theta = 1$
 B) $\frac{A}{C} + \frac{B}{C} = \frac{x^2}{h^2} + \frac{y^2}{h^2} = \cos^2 \theta + \sin^2 \theta = 1$
 C) $A + B = C = x^2 + y^2 = h^2 = \sin^2 y + \cos^2 x = 1$
 D) $C - B = A = h^2 - y^2 = \cos^2 \theta - 1 = \sin^2 \theta$
 E) None of the above



#2) Which of the following pairs of pictures provides a proof of the Pythagorean Theorem?

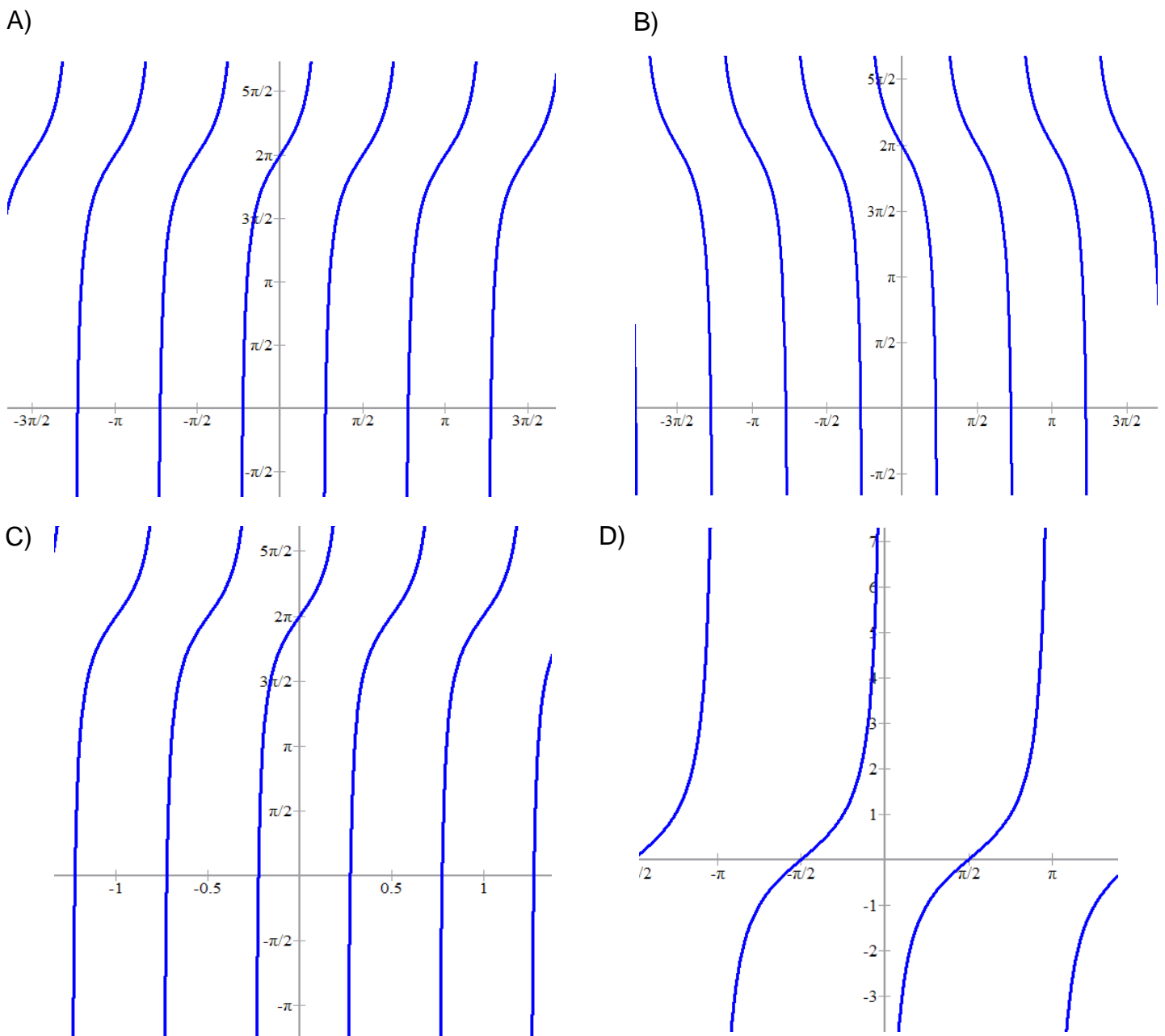
- A)
- B)
- C)
- D)
- E) None of the above

#3) Which of the following statements is completely true?

- A) $\arcsin [\sin^{-1}(1)]$ is defined.
- B) $\sin [\arcsin (\pi/2)] = \pi/2$
- C) $\arcsin [\sin(\pi/2)] = \sin [\arcsin(\pi/2)]$
- D) $\sin^{-1} [\sin(\arcsin(\sin(3\pi/4)))] = \sin [\arcsin(\sin(\sin^{-1}(\pi/4)))]$
- E) None of the above

#4) Which of the following is the graph of

$$y = 2\pi + \tan(2x - \pi)$$

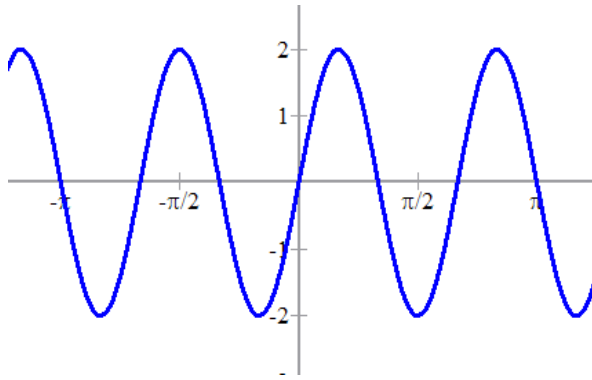


- E) None of the above

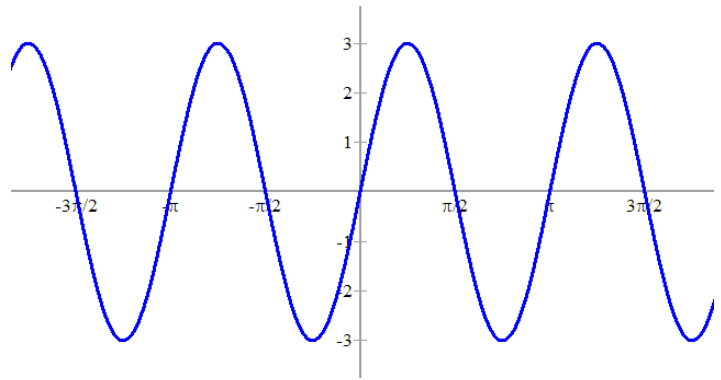
#5) Which of the following is the graph of

$$y = 2 \cos(3x - 6\pi)$$

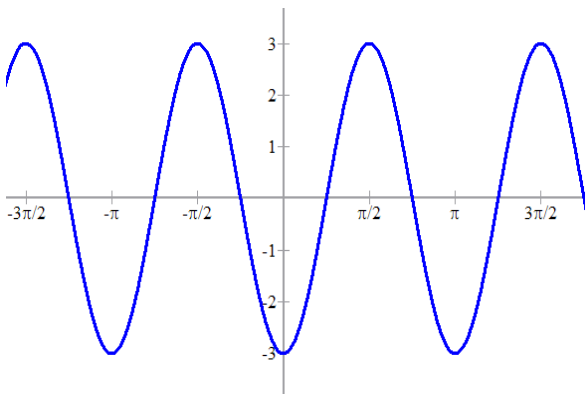
A)



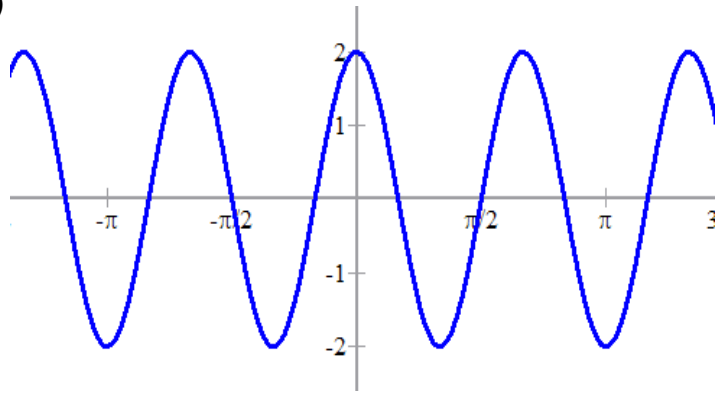
B)



C)



D)



E) None of the above

#6) Which of the following statements is completely true?

- A) $\sin(-76\pi/3) = -\sin(40\pi/3)$
- B) $\cos(17\pi/8) = \cos(-15\pi/8)$
- C) $\tan(32\pi/7) = \tan(39\pi/7)$
- D) All of the above
- E) None of the above

#7) Assuming the Earth's orbit is circular, what is its approximate angular speed assuming the Earth is 8 lightminutes away from the sun? (Note that 1 lightminute is a length equal to the distance light travels in 1 minute and also note that there are 365 days in 1 year).

- A) $365\pi/\text{day}$
 - B) $16\pi \text{ light minutes} / 365 \text{ days}$
 - C) $2\pi / 365 \text{ days}$
 - D) All of the above
 - E) None of the above
-

#8) Which of the following statements is completely true if $\tan(x) = 3/2$ and $\sin(x) > 0$?

- A) $\cos(x) = -2/\sqrt{13}$ and $\sin(x) = 3/\sqrt{13}$
 - B) $\csc(x) = \sqrt{13}/2$ and $\sec(x) = \sqrt{13}/3$
 - C) $\cos(x) = \pm 2/\sqrt{13}$ and $\sin(x) = \pm 3/\sqrt{13}$
 - D) $\cos(x) = 2/\sqrt{13}$ and $\sin(x) = 3/\sqrt{13}$
 - E) None of the above
-

#9) Solve for x: $2\sin^2 x - 3\sin x = -1$

- A) $x \in \{ \pi/2 + 2k\pi, \pi/6 + 2k\pi, 5\pi/6 + 2k\pi; k \in \mathbb{Z} \}$
 - B) $x \in \{ (\pi/6)^2 + \pi k; k \in \mathbb{Z} \}$
 - C) $x \in \{ \pm\pi/6 + 2\pi k, \pi/2 + 2k\pi; k \in \mathbb{Z} \}$
 - D) $x = \pi/6, 5\pi/6$
 - E) None of the above
-

#10) Which of the following statements is completely true?

- A) $\pi^\circ > 3 \text{ radians}$
- B) $\cos(\theta + \pi) \equiv \cos(\theta - \pi)$
- C) $\tan(x/y) \equiv \cot(y/x)$
- D) All of the above
- E) None of the above