Math 34A Winter 2020
Old Midterm 2 #5

No calculators

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Excellence
Bonus   1

Score   27

Put answers in the boxes provided. **Show high quality work** for **all answers**. Points may be awarded for this.
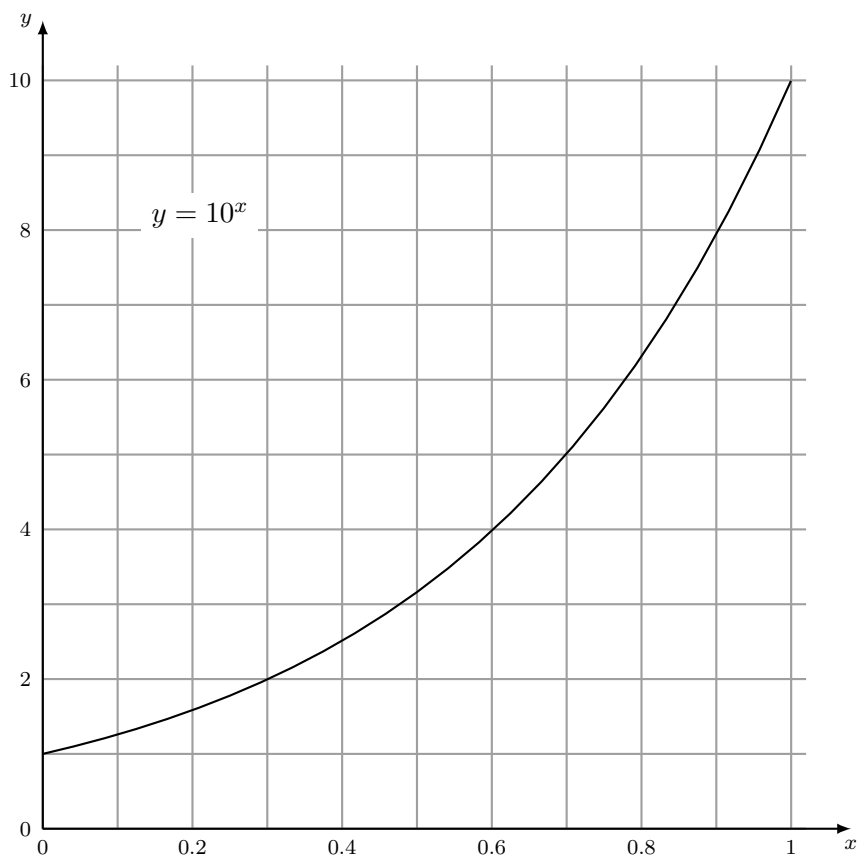
TA: ☐ Garo   ☐ Sam   ☐ Trevor   **Section Time:** ☐ 8am   ☐ 6pm
                                                                            ☐ 5pm   ☐ 7pm

1. [/6] Use the graph given to find

(a) $\log(437) =$

(b) $10^{-2.10} =$

(c) $\log(100/6.7) =$

$y = 10^x$

2. [/3] Solve the following equation. Leave logs in your answer.

$$2 + 7^{3x+2} = 8$$

$$x = \boxed{}$$

3. [/6] (Show work! Draw a labeled diagram!)
Line A goes through $(5, 1)$ and $(2, 4)$. Line B has slope 2 and goes through $(3, 1)$.

(a) What is the equation of Line A? Give the answer in the form $y = mx + b$.

$$y = \boxed{}$$

(b) What is the equation of Line B? Give the answer in the form $y = mx + b$.
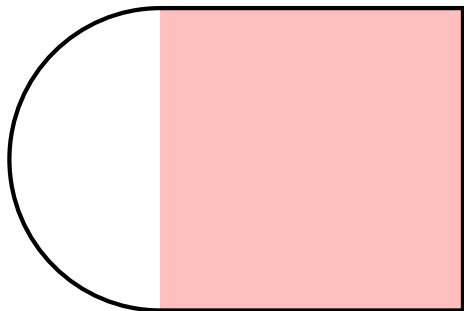
$$y = \boxed{}$$

(c) What are the coordinates of the point (x, y) where the lines $y = 5 + 2x$ and $y = 2 - x$ intersect?

$$(x, y) = \boxed{}$$

4. [/6] A garden is in the shape of a square and with a semicircle on one side. The length of each side of the square is t.

perimeter of garden
*shown **thick***

(a) Find the area of the garden. This answer will only involve t.

area =

(b) Find the perimeter of the garden. This answer will only involve t.

perimeter =

(c) If the area of the square is 100, find the perimeter of the garden. This answer will *not* involve t.

perimeter =

5. [/6] There are 4 grams of gold.

(a) If this gold is mixed with 8 grams of silver, what percentage of this mixture is gold?

%

(b) How many grams of silver should be mixed with this gold to create a mixture that is 20% gold?

g

(c) How many grams of silver should be mixed with this gold to create a mixture that is $x\%$ gold?

g