

MATH 113, QUIZ #1

SEPTEMBER 1

1. Multiple choice. Select ALL that apply (circle the bullet point next to correct answers).
If you must miss a midterm,...

- you will fail this class.
- you can make it up, as long as you have documentation for something very serious, like emergency brain surgery.
- your final exam will count more.
- the highest course grade you can possibly get will be a B.
- you should let Kelli know ASAP, preferably before the exam happens.

2. What are 3 appropriate ways to get in touch with Kelli?

-
-
-

3. What should you do if you need to miss class on a day homework is due?

4. List 3 things you should do if you want to do well in this class.

-
-
-

5. Multiple choice – select all that apply (circle the bullet point next to correct answers). Which of the following are equivalence relations on the specified set? Answers only, no justification required.
- In \mathbb{Z}^+ , congruence modulo 7.
 - In \mathbb{R} , $x \sim y$ iff $|x| = |y|$.
 - In \mathbb{Z} , $x \sim y$ iff $x \geq y$.
 - In \mathbb{R} , $x \sim y$ iff $|x + y| \leq 5$.
 - In the set of animals in the ocean, $x \sim y$ iff x and y have the same number of gills.
6. Multiple choice – select all that apply (circle the bullet point next to correct answers). Which of the following are binary operations on the specified set? Answers only, no justification required.
- For all $a, b \in \mathbb{Z}^+$, $a * b = 2^{ab} + 1$.
 - For all $a, b \in \mathbb{Z}^+$, $a * b = \frac{a}{b}$.
 - For all $a, b \in \mathbb{Q}$, $a * b = \frac{3a+b}{5}$.
 - For all $a, b \in \mathbb{R}$, $a * b = a + b - 17$.
 - For all a and b in the set $\{1, 2, 3, 4, 5, 6\}$, $a * b = a + b$.
7. Let S be the set of students in our class. Give an example of an equivalence relation on S . Choose an equivalence relation which partitions S into 3 to 10 cells/equivalence classes (we have 40 total students, fyi). Answers only, no justification required.
8. Let S be the set of students in our class. Give an example of a binary operation on S . Answers only, no justification required.