Problem 1. The first exam is currently scheduled for the evening of Wednesday, 17 September. How would you feel about holding it on Thursday, 18 September? Note that this is the first day of Parents' Weekend.

A) Strongly prefer Wednesday

B) Prefer Wednesday

C) No preference

D) Prefer Thursday

E) Strongly prefer Thursday

Answer E on any problem for "The question does not make sense."

Definition 2. We call an integer n *prime* if $n > 1$ and it has no positive divisors other than itself and 1.

Problem 3. Is the number 1 prime, composite, both, or neither?
A) Prime   B) Composite   C) Both   D) Neither

Solution. D) □

Problem 4. Is the number $\sqrt{2}$ prime, composite, both, or neither?
A) Prime   B) Composite   C) Both   D) Neither

Solution. E) The question does not make sense because the definition of primality only applies to *integers* and $\sqrt{2}$ is not an integer. □

Definition 5. We say that an integer n *divides* another integer m if there is a third integer c such that $m = cn$. We also say that m is *divisible* by n in this situation.

Problem 6. Which of the following are divisible by zero?

A) No integers

B) All integers

C) Only zero

Solution. C) □

Definition 7. We say that an integer n is *even* if it is divisible by 2.

Definition 8. We say that an integer n is *odd* if there is an integer k such that $n = 2k + 1$.

Problem 9. Which numbers are both even and odd?
A) No integers   B) All integers   C) Only zero

Solution. A) □

Problem 10. Which of these collections of integers is largest?
A) Even integers   B) Odd integers   C) All integers

Solution. E) □