

King Fahd University of Petroleum and Minerals
Math001-Quiz#1A

1. If $A = \{x | x \text{ is a composite number not greater than } 12\}$
 $B = \{x | x \text{ is an odd number and } 0 \leq x < 25\}$
 $C = \{x | x \text{ is a prime number less than } 15\}$
 - (a) List all elements of A, B, and C.
 - (b) Find $(A \cap B) \cup C$.

Solutions:

1. (a) $A =$
 $B =$
 $C =$
 - (b) $(A \cap B) \cup C$
2. Write the interval $(-\infty, 3] \cap (2, \infty)$ in inequality notation.
3. Write the following expression without absolute value symbols and in simplest form: $|\frac{-2x+2}{|x|+|x-2|}|$, given $0 < x < 1$.
4. Which one of the following statements is TRUE?
 - (a) The smallest odd composite number is 9.
 - (b) The set of irrational numbers is closed under addition.
 - (c) The sum of two composite number is a composite number.
 - (d) If a is real number, then $a^2 \geq a$.
 - (e) $(a + 6) + 2y = (6 + a) + 2y$ is true because of associative property.
5. Which one of the following statements is FALSE?
 - (a) If $m < 0$, then $|m| = -m$.
 - (b) 1 is the only positive number that is not prime and not composite.
 - (c) $|-y| = y$ for any real number y .
 - (d) Every real number is either rational or irrational.