

Maths for Regular expressions worksheet

1. What is a Set?
2. What is the cardinality of the set: $S = \{23, 19, 18, 15\}$?
3. Define a set Q consisting all the odd numbers between 1 and 9.
4. What is the cartesian product of $S1 = \{a, b\}$ and $S2 = \{c, d\}$?
5. What set would the following set produce: $A = \{1^n 0^n 1^n \mid n \in \mathbb{N}^+ n > 1 \wedge n < 3\}$?
6. What set would the following list comprehension produce: $A = \{4n \mid n \in \mathbb{N}^+ n < 3\}$?
7. If $X = \{2, 4, 6, 8\}$ and $Y = \{4, 8, 16, 32\}$ what is $X \cup Y$
8. if $A = \{0, 2\}$ and $B = \{1, 2\}$ find C where $C = A \times B$
9. What is the intersection of $X = \{2, 4, 6, 8, 10\}$ and $Y = \{3, 7, 8, 1, 6\}$?
10. What is the difference of $X = \{2, 4, 6, 8, 10\}$ and $Y = \{3, 7, 8, 1, 6\}$?