Quiz 2

Date: September 12, 2019

Name:

1. (20 points) Fill out the truth table below for the logic function

p	**q**	$\neg q$	$p \oplus q$	$p \oplus \neg q$	$(p \oplus q) \Rightarrow (p \oplus \neg q)$
0	0	**1**	**0**	**1**	**1**
0	1	**0**	**1**	**0**	**0**
1	0	**1**	**1**	**0**	**0**
1	1	**0**	**0**	**1**	**1**

2. (10 points) How many possible sequences of Heads and Tails are there in ten coin flips?

> **Solution:** 1024

3. (10 points) How many possible combinations of three balls can you choose from a set of five balls?

> **Solution:**
> $$\binom{5}{3} = \frac{5!}{3!(5-3)!} = \frac{120}{6 \times 2} = 10$$