

## Mth 142: Group Activity Probability; Monday Oct 7th

- Work in groups of 2 or 3 to complete the following exercises.

1. In a box there are 11 balls. Three balls are red and 8 balls are blue. Draw two balls one at a time without replacement.

(a) Create a tree diagram with probabilities on each possible outcome.

(b) Find the probability of drawing 2 red balls.

(c) Find the probability that the first ball is blue and second one is red.

(d) Find the probability that the second ball is red given the first ball is blue.

2. Consider the following table.

| <b>Boaters</b>  | <b>The<br/>Coastline</b> | <b>Freshwater<br/>Lakes</b> | <b>Rivers and<br/>Streams</b> | <b>Total</b> |
|-----------------|--------------------------|-----------------------------|-------------------------------|--------------|
| <b>Canoer</b>   | 18                       | 16                          |                               | 45           |
| <b>Kayakers</b> |                          |                             | 14                            | 55           |
| <b>Total</b>    |                          | 41                          |                               |              |

- (a) Complete the table.
- (b) Let  $A$  = event “canoers” and  $C$  = event “Prefers the coastline”. Are  $A$  and  $C$  independent?
- (c) Find the probability of selecting a kayaker given that the person prefers freshwater lakes.
- (d) Find the probability of selecting a canoer or a person who prefers rivers and streams.