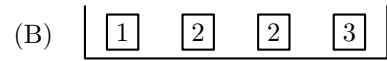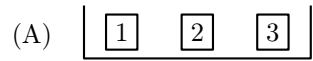# Probability Review Exercises

1. Three cards are dealt from a well-shuffled deck.

    a) Find the chance that all the cards are tens.

    b) Find the chance that none of the cards are tens.

    c) Find the chance that the cards are not all tens.

    d) Find the chance that the third card is a ten.

    e) Find the chance that the third card is a ten given that the first two were $J\clubsuit$ and $2\heartsuit$.

    f) Find the chance that the second card is a ten or a $\heartsuit$.

    g) Let A be the event that the first card is a 10. Describe an event B for which A and B are independent.

    h) Let A be the event that the first card is a 10. Describe an event B for which A and B are mutually exclusive.

2. One ticket will be drawn at random from each of the two boxes shown below.

(A) | 1 | 2 | 3 | (B) | 1 | 2 | 2 | 3 |

Find the chance that:

a) The number drawn from (A) is larger than the one from (B).

b) The number drawn from (A) equals the one from (B).

c) The number drawn from (A) is smaller than the one from (B).

3. In the box shown below, each ticket should have two numbers:

| 1 ☐ | | 1 | 2 | | 1 | 2 | | 1 | 3 | | 3 | 1 | | 3 | 2 | | 3 | ☐ | | 3 | ☐ |

A ticket will be drawn at random. Can you fill in the blanks so that the two numbers are independent?

4. A box has seven green beads and three red beads. Five beads are drawn at random with replacement. Find the probability that two red beads will be drawn. What if the beads are drawn without replacement?