

Math 2100 – Spring 2020

Lab 1

Names:

Venn buttons

Do Activity 2.1.1, which involves sorting buttons into different Venn diagrams. You'll need some scissors, too!

Bead bases

Count out 6 piles of 8 beads each. This will be your "stock" of beads.

(a) Form as many groups of 10 beads as your stock will allow (placing each group of 10 in a pile) and record your result.

Tens	Ones

What is the base-ten numeral representing the number of beads in your stock?

(b) Now form piles of 4 beads with your stock. Suppose you could only count to 4. Can you record the result in the table below? If not, why not?

Fours	Ones

(c) From the piles of 4, form “superpiles” each containing four piles of 4 beads each. Record your result.

Four fours	Fours	Ones

What is the base-four numeral for the number of beads in your stock?

(d) Carry out the same procedure as in (c), now grouping into groups and supergroups of five. What is the base-five numeral for the number of beads in your stock?

Five fives	Fives	Ones

(e) From your stock, select a subset of beads containing 221_{three} pieces and draw a picture. Do not convert 221_{three} to a base-ten numeral and count. Pretend that you could only count to three.

(f) Convert 472_{eight} to base 10.

(g) Convert 224 to base 6