

Name _____

Date _____

Use your knowledge of Sets and Set Theory to answer each question below.

1. Circle all items below which are elements of set X , where $X = \{-8, -6, -4, -2, 0, 2, 4\}$.

red **-6** a **2** 9 $\frac{1}{2}$ n **-8** $-3\frac{1}{2}$

2. Circle all items below which are elements of set Y , where $Y = \{\text{vowels}\}$.

c -1 **u** $\frac{1}{2}$ **i** **a** x -3 **e**

3. Given $A = \{0, 2, 4, 6, 8, 10, 12\}$, $B = \{t, r, i, a, n, g, l, e\}$ and $C = \{-4, -3, -2, -1, 0, 1, 2, 3\}$, circle all statements below that are true.

$s \notin B$ **$16 \in A$** **$4 \notin C$** **$t \in A$** **$-3 \in C$** **$8 \notin A$**

4. Label each set below as finite or infinite. If finite, list all elements.

a) {fingers} **finite; {thumb, index, middle, ring, little}**

b) {whole numbers} **infinite**

c) {primary colors} **finite: {red, blue, yellow}**

d) {prime numbers} **infinite**

e) {days of the week} **finite: {Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday}**

6. Rewrite each set below using an ellipsis up to two times.

{integers} **Sample answer is {..., -5, -4, -3, -2, -1, 0, 1, 2, ...}**

{The English alphabet} **Sample answer is {a, b, c, ..., x, y, z}**

{even whole numbers < 100} **Sample answer is {0, 2, 4, ..., 94, 96, 98}**

{months of the year} **Sample answer is {Jan, Feb, Mar, ..., Oct, Nov, Dec}**

7. Give two original examples of a finite set. **Answers will vary. Samples answers are:**

{members of the soccer team}

{whole numbers less than 20}