

## Union and Intersection of Sets Bell Work

Find each union or intersection. Let  $X = \{2, 4, 8, 16, 32\}$ ,  $Y = \{x | x \text{ is a positive even integer less than } 15\}$ , and  $Z = \{2, 5, 8, 11, 14, 17\}$ .

1.  $X \cup Y$

2.  $X \cup Z$

3.  $Y \cup Z$

4.  $X \cap Y$

5.  $X \cap Z$

6.  $Y \cap Z$

Solve each inequality. Write the solutions as either the union or intersection of two sets.

7.  $|2x - 6| \geq -18$

8.  $2|x - 3| \leq 14$

9.  $3(x - 2) < -15x < -3$

Draw a Venn diagram to represent the union and intersection of these sets.

10. Let  $X = \{d, o, n, k, e, y\}$ ,  $Y = \{m, o, n, k, e, y\}$  and  $Z = \{d, r, a, g, o, n, f, l, y\}$ . Draw a Venn diagram to represent the union and intersection of these sets.

