# Week in Review #2
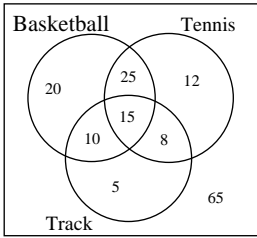
1. Draw the venn diagram.

   Answer: $75 + 20 + 15 = 110$
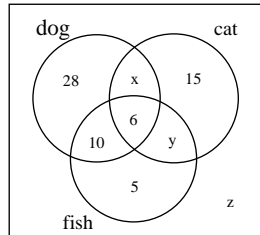
2. (a) Venn digram
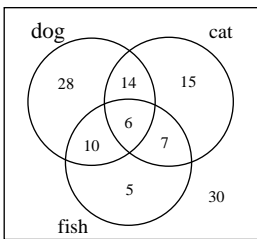


   (b) 38

   (c) 58

   (d) 57

3. (a) Use the information to fill in this venn diagram and use the information to get the simplified equations listed on the left.

$$x + y = 21$$
$$x + z = 44$$
$$y + z = 37$$



   Solve the system of equations to get the venn diagram.



   (b) 115

4. $S = \{Ace, 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen, King\}$

5. (a) $S = \{R, E, P, S, N, T, A, I, V\}$

   (b) $2^{n(S)} = 2^9 = 512$

   (c) $E = \{E, A, I\}$

6. (a) $S = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$

   (b) $E = \{0, 2, 4, 6, 8, 10\}$

   (c) $F = \{0, 3, 6, 9\}$

   (d) $G = \{0, 5, 10\}$

   (e) $H = \{7, 9\}$

   (f) $\{5, 7, 10\}$

   (g) H and G are mutually exclusive.
       H and E are mutually exclusive.

   (h) E and F occurred.

7. $S = \{0, 2, 3, 4, 6, 8, 12\}$

8. (a) $S = \{\$0.15, \$0.20, \$0.30, \$0.35, \$0.50\}$

   (b) $E = \{\$0.30, \$0.35, \$0.50\}$

   (c) $F = \{\$0.15, \$0.20, \$0.30\}$

9. prob. distribution.

| S | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| prob. | $\frac{4}{23}$ | $\frac{2}{23}$ | $\frac{2}{23}$ | $\frac{5}{23}$ | $\frac{3}{23}$ | $\frac{1}{23}$ | $\frac{6}{23}$ |

10. prob. distribution.

| S | 1 | 2 | 3 | 4 | 6 | 8 | 9 | 12 | 16 |
|---|---|---|---|---|---|---|---|----|----|
| prob. | $\frac{1}{16}$ | $\frac{2}{16}$ | $\frac{2}{16}$ | $\frac{3}{16}$ | $\frac{2}{16}$ | $\frac{2}{16}$ | $\frac{1}{16}$ | $\frac{2}{16}$ | $\frac{1}{16}$ |

   not the sample space is not uniform.

11. (a) $\frac{34}{100}$

   (b) $\frac{43}{100}$

   (c) 0

12. (a) $\frac{3}{52}$

   (b) $\frac{22}{52}$

   (c) $\frac{39}{52}$

   (d) $\frac{48}{52}$

13. (a) $\frac{11}{17}$

   (b) $\frac{8}{17}$

   (c) $\frac{14}{17}$

14. (a) $\frac{3}{8}$

   (b) $\frac{4}{8}$