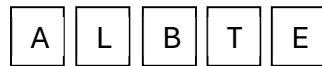


Math 5c.

1. In a box, there are 15 white, 5 red, and 10 black balls. One ball is randomly drawn. Find the probability that it will be:
  - a) white,
  - b) red,
  - c) black.
  
2. A two-digit number is written at random. What is the probability that the sum of the digits of this number is equal to 5?
  
3. John has index cards with letters. He took cards with letters T, A, B, L, E, turned them blank side up, mixed them, lined them up, and turned them back over. He got:



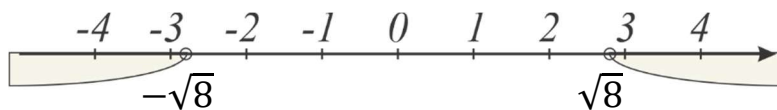
What is the probability of getting “TABLE”?

What is the probability of getting “EGG” from the cards with G, G, E?

What is the probability of getting “PASS”? “ACCEPT”? “ADDRESS”?”

4. Convert to decimal:  
 $111_2$ ,  $10101_2$ ,  $232_4$ ,  $1A8_{12}$
  
5. Convert to binary:  
 $12$ ,  $111$ ,  $232$
  
6. Convert to base 16:  
 $12$ ,  $111$ ,  $232$
  
7. Show on the number line (coordinate axis) all the solutions of the equation:

Example:  $x^2 > 8$



a.  $x^2 \geq 9$ ;      b.  $x^2 < 10$ ;      c.  $x^2 > -3$

8. What should the natural numbers  $a$  and  $b$  be so that the value of the expression  $5a + 3b$  is:
  - a. a multiple of 3;
  - b. a multiple of 5;
  - c. a multiple of 15,
  - d. not a multiple of 3;
  - e. not a multiple of 5.

9. Find all possible solutions to the problems:

- a. The sum of the digits of a 2-digit number is 12 and its product is 35. What is the number?
- b. The sum of the digits of a 2-digit number is 11 and its product is 24. What is the number?
- c. The sum and the product of the digits of a 3-digit number is 6. What is the number?
- d. The sum of the digits of a 4-digit number is 2 and its product is 0. What is the number?

10. Let  $C$  be a set of the rational numbers greater than 0.3 and less than 0.6. Using the symbols  $\in$  and  $\notin$  write which numbers belong to  $C$  and which do not belong to  $C$ .

Example:  $\frac{7}{10} \notin C$ ,  $\frac{2}{5} \in C$

$$\frac{1}{2}, \quad \frac{1}{3}, \quad \frac{1}{4}, \quad \frac{1}{5}, \quad \frac{1}{10}$$