

# Key - Rochambeau Problems

Practice Problems ☺

1-9. You roll a six-sided die once. Find the following *theoretical* probabilities:

1.  $P(4) = \frac{1}{6} = .17$

2.  $P(\text{odd}) = \frac{3}{6} = \frac{1}{2} = .5$

3.  $P(\text{not } 5) = \frac{5}{6} = .83$

4.  $P(\text{less than } 3) = \frac{2}{6} = \frac{1}{3} = .33$

5.  $P(\text{greater than } 6) = 0$







6.  $P(\text{not odd}) = \frac{3}{6} = \frac{1}{2} = .5$

7.  $P(1 \text{ or } 2) = \frac{2}{6} = \frac{1}{3} = .33$

8.  $P(\text{less than } 6) = \frac{5}{6} = .83$

9.  $P(9) = 0$

You roll a six sided die 60 times. Here are your results:

Six-sided Die Results					
					
11	14	7	10	6	12

10-18. Find the following *experimental* probabilities:

10.  $P(4) = \frac{10}{60} = \frac{1}{6} = .17$

11.  $P(\text{odd}) = \frac{24}{60} = \frac{2}{5} = .4$

12.  $P(\text{not } 5) = \frac{54}{60} = \frac{9}{10} = .9$

13.  $P(\text{less than } 3) = \frac{25}{60} = \frac{5}{12} = .42$

14.  $P(\text{greater than } 6) = 0$

15.  $P(\text{not odd}) = \frac{36}{60} = \frac{3}{5} = .6$

16.  $P(1 \text{ or } 2) = \frac{25}{60} = \frac{5}{12} = .42$

17.  $P(\text{less than } 6) = \frac{48}{60} = \frac{4}{5} = .8$

18.  $P(9) = 0$

19. Were any of the theoretical probabilities were the same as the experimental probabilities?

$P(4)$ ,  $P(\text{greater than } 6)$ ,  $P(9)$

20-25. You have a bag of 3 yellow, 9 red and 8 blue marbles. You randomly draw one marble from a bag.

Find the following *theoretical* probabilities:

20.  $P(\text{yellow}) = \frac{3}{20} = .15$

21.  $P(\text{blue}) = \frac{8}{20} = \frac{2}{5} = .4$

22.  $P(\text{not red}) = \frac{11}{20} = .55$

23.  $P(\text{white}) = 0$

24.  $P(\text{yellow or red}) = \frac{12}{20} = \frac{3}{5} = .6$

25.  $P(\text{yellow, red or blue}) = \frac{20}{20} = 1$