

## Probability and Odds

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Draw the tree diagram for the following experiments and determine the sample space  $S$ .

1. Flip a coin.

If you flip a coin, what's the **probability** of flipping a:

**Approximate to the nearest thousandths.**

2. Heads?
  3. Tails?
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Draw the tree diagram for the following experiments and determine the sample space  $S$ .

4. Flip two coins

If you flip Two coins, what's the **probability** of flipping:

**Approximate to the nearest thousandths.**

5. Two heads?
  6. Two tails?
  7. One head?
  8. One tails?
  9. At least one head?
  10. More than one heads?
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Draw the tree diagram for the following experiments and determine the sample space  $S$ .

11. Flip three coins.

If you flip three coins, what's the **probability** of flipping:

**Approximate to the nearest thousandths.**

12. One heads?
  13. Two heads?
  14. At least one heads?
  15. No more than one heads?
  16. Less than three heads?
  17. More than two heads?
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Draw the tree diagram for the following experiments and determine the sample space  $S$ .

18. Roll a die.
19. Roll a die and flip a coin.

### **Bag of Marbles**

A bag contains the following marbles.

**Approximate to the nearest thousandths.**

**6 red**  
**4 yellow**  
**2 blue**  
**1 green**

If you select a marble at random, what's the **probability** of selecting a:

**Approximate to the nearest thousandths.**

20. Red marble?
21. Yellow marble?
22. Blue marble?
23. Green marble?
24. Non red marble?
25. Non yellow marble?
26. Non blue marble?

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### **Standard Deck**

If you select a card from a standard deck assuming the ace is high, what's the **probability** of selecting a:

**Approximate to the nearest thousandths.**

27. Club?
28. Ace?
29. Red card?
30. Red ace?
31. Ace of clubs?
32. Card less than 4?
33. Red card less than 4?
34. Face card?
35. Red Face card?
36. Non club?
37. Non ace?
38. Non red card?
39. Non face card?

## Titanic Mortality Table

	Men	Women	Boys	Girls	Total
<b>Survived</b>	332	318	29	27	706
<b>Died</b>	1360	104	35	18	1517
<b>Total</b>	1692	422	64	45	2223

If you select a passenger at random, what's the **probability** of selecting a person who:

**Approximate to the nearest thousandths.**

40. Survived?
41. Died?
42. Man?
43. Woman?
44. Boy?
45. Girl?

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### Roll a Die

If you roll a die, what's the **odds for** rolling a:

46. 4?
47. 1?
48. Even number?
49. Number at least a 2?
50. Number more than 5?
51. Number no more than 4?

### **Bag of Marbles**

A bag contains the following marbles.

**6 red**  
**4 yellow**  
**2 blue**  
**1 green**

If you select a marble at random, what's the **odds for** of selecting a:

- 52. Red marble?
- 53. Yellow marble?
- 54. Blue marble?
- 55. Green marble?

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### **Standard Deck**

If you select a card from a standard deck assuming the ace is high, what's the **odds for** selecting a:

- 56. Club?
- 57. Ace?
- 58. Red card?
- 59. Red ace?
- 60. Ace of clubs?
- 61. Face card?
- 62. Red Face card?

### Titanic Mortality Table

	Men	Women	Boys	Girls	Total
<b>Survived</b>	332	318	29	27	706
<b>Died</b>	1360	104	35	18	1517
<b>Total</b>	1692	422	64	45	2223

If you select a passenger at random, what's the **odds for** of selecting a person who:

- 63. Survived?
- 64. Died?
- 65. Man?
- 66. Woman?
- 67. Boy?
- 68. Girl?

**Unitize the first quantity in the odds (ratio) and approximate the second quantity to the nearest tenths for the Titanic Mortality questions above.**

- 69. Survived?
- 70. Died?
- 71. Man?
- 72. Woman?
- 73. Boy?
- 74. Girl?