

1. Determine which of the following are valid values for probability.

a) $P(A) = 3.5$

Valid or Invalid

b) $P(B) = 0.2$

Valid or Invalid

c) $P(C) = 1.1$

Valid or Invalid

d) $P(A) = 0$

Valid or Invalid

2. Determine the probability of each event and determine if the events are: (I)mpossible, (UN)likely, (EQ)ually likely, (L)ikely or (C)ertain to happen.

a) The next week has 7 days in it

b) Average Temperature in Alaska in December is less than 30°F

c) Getting a yellow marble from a bag of 5 red & 2 green marbles.

I or UN or EQ or L or C

I or UN or EQ or L or C

I or UN or EQ or L or C

d) You roll a 2 on a die.

e) You roll an even number on a die.

I or UN or EQ or L or C

I or UN or EQ or L or C

3. A Bag of marbles has 7 yellow, 6 red, and 1 purple. Create a situation that would satisfy the following:

a) Something that is IMPOSSIBLE to happen.

b) Something that is EQUALLY LIKELY to happen.

c) Something that is LIKELY to happen.

4. Describe a NEW situation that would satisfy the following. (Do not use something from above.)

a) Something that is LIKELY to happen.

b) Something that is EQUALLY LIKELY to happen.

c) Something that is CERTAIN to happen.

5. Determine the basic probability.

a) Given a bag of marbles with 7 green, 4 yellow and 2 red, what is the:

$P(\text{Green}) = \underline{\hspace{2cm}}$ $P(\text{Red}) = \underline{\hspace{2cm}}$ $P(\text{Blue}) = \underline{\hspace{2cm}}$

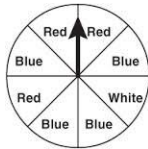
$P(\text{Yellow or Red}) = \underline{\hspace{2cm}}$ $P(\text{Green or Yellow}) = \underline{\hspace{2cm}}$

b) Given a standard deck of cards, what is the:

$P(\text{Black 10}) = \underline{\hspace{2cm}}$ $P(\text{Queen}) = \underline{\hspace{2cm}}$ $P(\text{Ace or Jack}) = \underline{\hspace{2cm}}$

$P(\text{Red Card or 9}) = \underline{\hspace{2cm}}$ $P(\text{Queen or 6}) = \underline{\hspace{2cm}}$ $P(\text{King or a Spade}) = \underline{\hspace{2cm}}$

c) Given the spinner, what is the:



$P(\text{Red or Blue}) = \underline{\hspace{2cm}}$

$P(\text{White or Red or Blue}) = \underline{\hspace{2cm}}$

$P(\text{Purple}) = \underline{\hspace{2cm}}$

d) Given that a family has 3 children and boys and girls are equally likely, show the sample space for the possible outcomes. Then, find the probabilities requested.

Sample Space:

a) $P(\text{three girls}) = \underline{\hspace{2cm}}$ b) $P(\text{Girl, Girl, Boy})$ in that order = $\underline{\hspace{2cm}}$

c) $P(\text{2 girls and one boy in any order}) = \underline{\hspace{2cm}}$

e) Given the roll of 2 dice and their values are summed, what is the:



$P(\text{sum of 10}) = \underline{\hspace{2cm}}$

$P(\text{sum of 7 or 9}) = \underline{\hspace{2cm}}$

$P(\text{odd sum or sum of 4}) = \underline{\hspace{2cm}}$

$P(\text{sum of 1}) = \underline{\hspace{2cm}}$

$P(\text{sum of a multiple of 2 or a multiple of 3}) = \underline{\hspace{2cm}}$