## Simple Probability - Outcomes

## 1. What is probability? How is it calculated?

2. Determine which of the following are valid values for probability.
a) $P(A)=0.4$
b) $P(B)=\frac{7}{3}$
c) $P(C)=100$
d) $P(A)=\frac{4}{5}$
Valid or Invalid
Valid or Invalid
Valid or Invalid
Valid or Invalid
e) $P(A)=3.5$
Valid or Invalid
f) $P(B)=20 \%$
Valid or Invalid
g) $P(C)=110 \%$
Valid or Invalid
h) $P(A)=0$
Valid or Invalid
3. Determine if the events are: (I)mpossible, (UN)likely, (EQ)ually likely, (L)ikely or (C)ertain to happen.
a) Selecting a red marble from a bag of 5 red $\& 2$ green marbles.
b) Getting a head when flipping a coin.
c) Selecting a spade from a deck of cards.

I or $U N$ or $E Q$ or $L$ or $C$
f) Getting a yellow marble from a bag of 5 red $\& 2$ green marbles.

I or $U N$ or EQ or $L$ or $C$
g) You roll a 2 on a die.

I or UN or EQ or L or C
h) You roll an even number on a die.

I or $U N$ or $E Q$ or $L$ or $C$
i) The next week on has 7 days in it

I or UN or EQ or L or C
4. A Bag of marbles has 4 yellow, 5 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.

## 5. Describe a situation that would satisfy the following: (You can not use something mentioned above)

a) Something that is LIKELY to happen.
b) Something that is EQUALLY LIKELY to happen.
c) Something that is CERTAIN to happen.
6. Determine the basic probability.
a) Given a bag of marbles with $\mathbf{2}$ green, $\mathbf{3}$ yellow and 5 red, what is the:
$P($ Green $)=$ $\qquad$ $P($ Red $)=$ $\qquad$
b) Given a standard deck of cards, what is the :
$\qquad$ $P($ Jack $)=$ $\qquad$ $P($ Numerical Card $)=$ $\qquad$
$P($ Ace $)=$ $\qquad$
$\mathrm{P}($ Face Card $)=$ $\qquad$
$P($ Red 8$)=$ $\qquad$
c) Given the spinner, what is the:

$\qquad$ $P($ White $)=$ $\qquad$
$P($ Green $)=$ $P($ Blue $)=$ $\qquad$
d) Given a bag of marbles, what is the:

$P($ Black $)=$ $\qquad$ $\mathrm{P}($ White $)=$ $\qquad$
$P($ Swirl $)=$ $\qquad$
e) Given the spinner, what is the:

$P($ number divisible by 3$)=$
$P($ number greater than 10$)$
$P($ prime $\#)=$
$(1$ isn't prime $)$
$\qquad$ $P($ a factor of 12$)=$ $\qquad$ (1 isn't prime)
f) Given the roll of $\mathbf{2}$ dice and their values are summed, what is the:

| $P($ sum of 12$)=$ | $P($ sum of 7$)=$ |
| :--- | :--- |
| $P($ sum of 4$)=$ | $P($ even sum $)=$ |

g) Given two 4 sided dice (vertex values of $1,2,3,4$ ) and their values are summed, what is the:

$P($ sum of 2$)=$ $\qquad$ $P($ sum of 5$)=$ $\qquad$

