

Each WA is worth 10 points. Work right on these pages. You can work together or see a tutor, but NEVER copy. This WA is for a grade, so dishonesty or cutting corners may earn a 0 for all involved.

1. [2 pts - 0.5 each] A bag contains 8 white marbles, 8 black marbles, 9 black cubes, and 8 red cubes. You reach into the bag and pull out ONE object. For each event (a)-(d) below, write the BEST choice from this list of probability options; you may use a choice more than once, and also justify each choice with a count of favorable versus unfavorable outcomes.

never seldom even break often always

- (a) The object was white
- (b) The object was a marble
- (c) The object wasn't red
- (d) The object wasn't pink
2. [1 pt] Name the type of probability that Problem #1 deals with, and tell what that means/how it is characterized.
3. [1 pt] If a bag contains 6 red marbles, 2 white marbles, and 10 blue marbles, could you add only white marbles (and not remove anything) to make it likely that you get a red marble? Explain, using only counting numbers (no fractions, percents, nor decimals).

4. [2 pts - 1 each] Clearly define the terms below, as they are used in the elementary math classroom.

(a) Experiment

(b) Sample space

5. [4 pts] Draw a single spinner so that all of the following conditions are true.

(a) The probability of stopping on a number 10, 11, 12, 13, 14, 15 is 1.

(b) The probability of stopping on a prime number is $1/2$.

(c) The probability of stopping on 10 is half that of stopping on 15.

(d) The probability of stopping on a multiple of 7 is 0.