

Name _____ Date _____

Patti would like to pick a **blue** gum ball from the gum ball machine. The gum balls are well mixed inside the machine.

The gum balls are

- yellow,
- blue, and
- red.

REVISED ANSWER AND PROBLEM – ONE BULLET WAS ELIMINATED – THAT BLUE MUST HAVE 50 OR MORE



Fill the gum ball machine for Patti. You must

- have exactly 100 gum balls inside the machine,
- include all 3 colors of yellow, blue, and red, ,
- have **twice** as many yellow as red,
- give Patti a **strong** probability of picking a blue gum ball from the machine without looking.

Fill in the chart to

- show how many of each color are in the gum ball machine, and
- show the probability of getting each color.

COLORS	#	PROB
yellow	2	2/100 or 1/50
blue	1	1/100
red	97	97/100
yellow	4	4/100 or 2/50
blue	2	2/100 or 1/50
red	94	94/100 or 47/50
yellow	6	6/100 or 3/50
blue	3	3/100
red	91	91/100
yellow	8	8/100 or 4/ 50
blue	4	4/100 or 2/50
red	88	88/100 or 44/50
yellow	10	10/100 or 1/10
blue	5	5/100 or 1/20
red	85	85/100 or 17/20
yellow	12	12/100 or 6/50
blue	6	6/100 or 3/50
red	82	82/100 or 41/50
yellow	14	14/100 or 7/50
blue	7	7/100

In Patti’s opinion, any answer in which blue does not have at least 50 is wrong for the bullet “give Patti a **strong** probability of picking blue.”

I agree with Patti.

Yes, there IS a real Patti.

Use your own judgment on this, however.

Grade 4 GWM– TOPIC 10

red	79	79/100
COLORS	#	PROB
yellow	16	16/100 or 8/50
blue	8	8/100 or 4/50
red	76	76/100 or 38/50
yellow	18	18/100 or 9/50
blue	9	9/100
red	73	73/100
yellow	20	20/100 or 1/5
blue	10	10/100 or 1/10
red	70	70/100 or 7/10
yellow	22	22/100 or 11/50
blue	11	11/100
red	67	67/100
yellow	24	24/100 or 12/50
blue	12	12/100 or 3/25
red	64	64/100 or 16/25
yellow	26	26/100 or 13/50
blue	13	13/100
red	61	61/100
yellow	28	28/100 or 7/25
blue	14	14/100 or 7/50
red	58	58/100 or 29/50
yellow	30	30/100 or 3/10
blue	15	15/100 or 3/20
red	55	55/100 or 11/20
yellow	32	32/100 or 8/25
blue	16	16/100 or 4/25
red	52	52/100 or 13/25

Explain why you chose the numbers you did for each color:

Blue needed to be the largest number of the 3 colors in order to have blue with the largest probability of being chosen.

Yellow is (for example) 32 and blue is 16
because 32 is twice as large as 16
or $16 + 16 = 32$
or it takes two 16s to get 32

(25A)

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Fill in the chart to

- show how many of each color are in the gum ball machine, and
- show the probability of getting each color.

COLORS	Number of Gum Balls	Probability of Picking That Color
yellow		
blue		
red		

Explain why you chose the numbers you did for each color.
