

If a marble is picked from the box, put
back and a second marble is picked, find
the probability of:

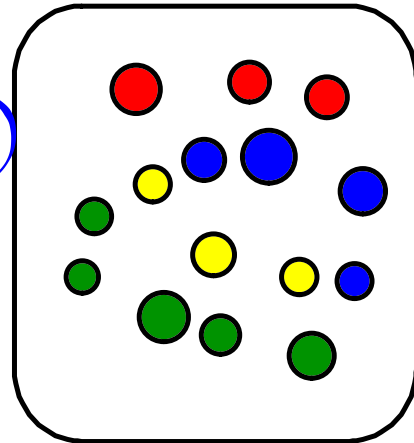
back
of 47

$$P(\text{red, blue}) = \frac{3}{15} \times \frac{4}{15} = \frac{4}{75}$$

$$P(\text{green, yellow}) = \frac{1}{3} \times \frac{1}{5} = \frac{1}{15}$$

$$P(\text{blue, blue}) = \frac{4}{15} \times \frac{4}{15} = \frac{16}{225}$$

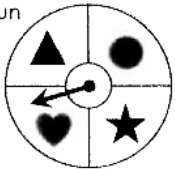
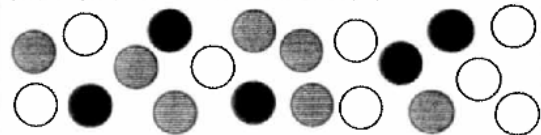
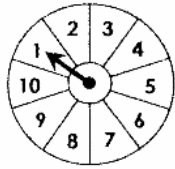
$$P(\text{green or blue, red}) = \frac{3}{5} \times \frac{1}{15} + \frac{3}{15} \times \frac{1}{5} = \frac{3}{25}$$

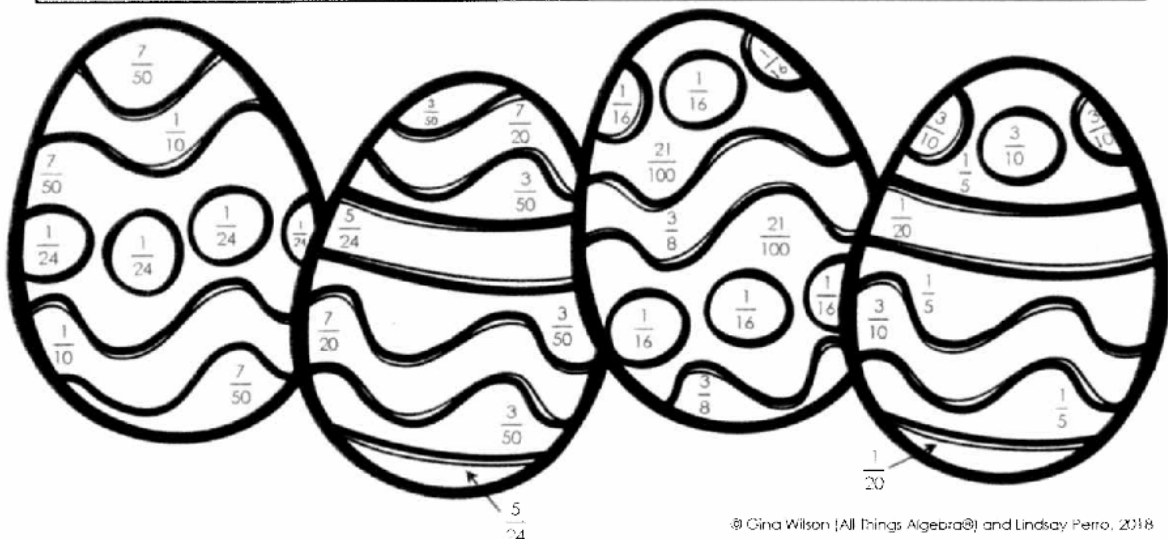


homework

Compound Probability

Directions: Find each probability. Identify your answer on the picture below and color accordingly.

For questions 1-3: The spinner is spun once and a standard die is rolled.		For questions 4-6: A marble is chosen, replaced, and then another marble is chosen.	
			
1. $P(\text{circle, then } 4)$	BLUE	4. $P(\text{black, then another black})$	YELLOW
2. $P(\text{not a star, then even})$	RED	5. $P(\text{not white, then stripes})$	ORANGE
3. $P(\text{heart, then at least } 2)$	GREEN	6. $P(\text{stripes, then white})$	PINK
For questions 7-9: A letter is chosen from the word OCEAN and a coin is flipped.		For questions 10-12: The spinner is spun twice.	
			
7. $P(\text{C, then heads})$	PURPLE	10. $P(4, \text{ then even})$	YELLOW
8. $P(\text{vowel, then tails})$	PINK	11. $P(\text{odd, then at least } 4)$	BLUE
9. $P(\text{consonant, then heads})$	GREEN	12. $P(\text{less than } 7, \text{ then } 9)$	PURPLE



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If a marble is picked from the box, NOT replaced and a second marble is picked, find the probability of:

p. 49

$$\frac{12}{518} \times \frac{4}{14} \frac{2}{7} \quad \left(\frac{2}{35}\right)$$

P(red, blue)

$$\frac{12}{518} \times \frac{3}{14} \quad \left(\frac{1}{14}\right)$$

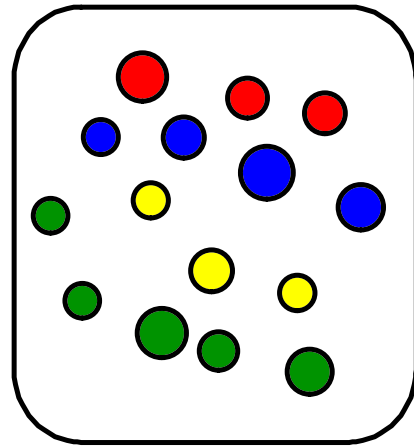
P(green, yellow)

$$\frac{4}{15} \frac{3}{14} \quad \left(\frac{2}{35}\right)$$

P(blue, blue)

$$\frac{31}{518} \frac{3}{14} \quad \left(\frac{9}{70}\right)$$

P(green or blue, red)



DEPENDENT EVENTS

Dependent Event: the outcomes from the second event are affected by the first event

How do you find the probability of two dependent events?

If two events are dependent, then the probability of both events occurring is the product of the probability of the first event and the probability of the second event after the first event occurs.

PRACTICE

There are 4 red, 6 green, and 5 yellow pencils in a jar. Once a pencil is selected, it is NOT replaced. Find each probability.

1. P(red and then yellow) = $\frac{4}{15} \times \frac{5}{14} = \frac{20}{210} = \frac{2}{21}$
2. P(two green) = $\frac{6}{15} \times \frac{5}{14} = \frac{30}{210} = \frac{1}{7}$
3. P(green and then yellow) = $\frac{6}{15} \times \frac{5}{14} = \frac{30}{210} = \frac{1}{7}$
4. P(red and then green) = $\frac{4}{15} \times \frac{6}{14} = \frac{24}{210} = \frac{4}{35}$



Several marbles are placed in a bag. Once a marble is selected, it is NOT replaced. Find each probability.

1. P(green, then red) = _____
2. P(red, then blue) = _____
3. P(green, then blue) = _____
4. P(blue, then green) = _____
5. P(not green, then green) = _____
6. P(yellow, then red) = _____
7. P(red, then red) = _____



Once a card is chosen, it is not replaced. Find each probability.

1. P(red 1, then blue 1) = _____
2. P(2, then 4) = _____
3. P(red, then blue) = _____
4. P(3, then red 4) = _____
5. P(red or blue, then 3) = _____

1 Red	2 Red	3 Red	4 Red
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1 Blue	2 Blue	3 Blue	4 Blue
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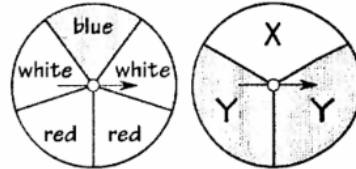
homework

What Did the Teenage Yardstick Say To Its Parents?

Find each answer in the set of answers under the exercise. Write the exercise letter in that box.

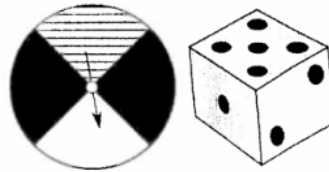
1 Find each probability if you spin both spinners.

- A. P(blue, X)
- T. P(red, X)
- N. P(white, Y)
- O. P(not red, X)
- D. P(not white, Y)
- I. P(not blue, Y)



2 Find each probability if you spin the spinner and roll the die.

- A. P(white, 4)
- S. P(black, 2)
- N. P(striped, even)
- T. P(white, less than 5)
- W. P(not white, odd)
- O. P(green, odd)



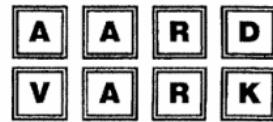
3 Solve.

- N. Kareem stepped to the free throw line for two shots. If the probability of making each shot is $\frac{3}{4}$, what is the probability that he will make both shots?
- T. Dr. Sox drives through two stoplights on her way to work. The first light is green for 20 seconds out of each minute. The second light is green for 35 seconds out of each minute. What is the probability that Dr. Sox will hit two green lights?

$\frac{8}{15}$	$\frac{7}{15}$	$\frac{3}{8}$	$\frac{1}{24}$	$\frac{9}{16}$	$\frac{2}{15}$	$\frac{5}{8}$	$\frac{1}{6}$	$\frac{1}{5}$	$\frac{5}{36}$	$\frac{1}{12}$	$\frac{7}{36}$	$\frac{1}{15}$	$\frac{1}{8}$	$\frac{2}{5}$	$\frac{9}{24}$	0	$\frac{4}{15}$
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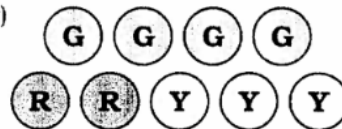
4 "AARDVARK": Find each probability if you pick a card, do not replace it, then pick a second card.

- O. P(V, then K)
- E. P(D, then R)
- N. P(A, then V)
- T. P(A, then R)
- Y. P(R, then not R)
- E. P(A, then not A)



5 Find each probability if you pick two marbles without replacing the first (G = green; R = red; Y = yellow).

- T. P(red, then green)
- E. P(red, then yellow)
- M. P(green, then green)
- F. P(yellow, then not yellow)
- R. P(green, then not green)
- W. P(not red, then not red)



6 Solve.

- E. Forty tickets are sold for a raffle with two prizes. You buy two tickets. What is the probability that you will win both prizes?
- H. Two cards are drawn at random from a standard deck of 52 cards. What is the probability that both cards are aces?

$\frac{3}{20}$	$\frac{1}{6}$	$\frac{3}{14}$	$\frac{7}{18}$	$\frac{1}{56}$	$\frac{7}{12}$	$\frac{3}{56}$	$\frac{2}{725}$	$\frac{1}{9}$	$\frac{1}{221}$	$\frac{5}{18}$	$\frac{15}{56}$	$\frac{1}{12}$	$\frac{3}{220}$	$\frac{1}{4}$	$\frac{1}{780}$	$\frac{1}{28}$	$\frac{3}{28}$
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