Day 3 More Practice

## Warm Up

1) You pick a piece of candy out of a jar. There are 5 strawberry pieces, 4 orange pieces, 3 cherry pieces and 6 banana pieces. You choose a strawberry piece. Your friend chooses a cherry piece. What is the probability of picking a strawberry and then a cherry piece?

2) Let $A$ be the probability of selecting an orange piece. What is $\mathrm{P}\left(\mathrm{A}^{0}\right)$ ?

$$
\begin{aligned}
& 1-P(A) \\
& 1-4 / 18=
\end{aligned}
$$



## Warm Up

Determine if the following events are independent or dependent, then calculate the probability of the events occurring (in the given order).

## Recall: $P(A \cap B)=P(A) * P(B)$ if $A$ and $B$ are independent.

1. A coin lands heads up and a die rolls 3 . independent
2. A queen is drawn from a deck of cards and then a face card is drawn.
3. A queen is drawn from a deck of cards (then replaced) and then a face card is drawn. independent
4. A single roll of a lands on 3 and 4. independent
5. If $9 \%$ of students in the class are born in March, and $40 \%$ of students have blood type $\mathrm{O}^{+}$, what is the probabililty of a randomly chosen student being born in March and having blood type O+?


The situation
There are 5 houses in five different colors.
In each house lives a person with a different nationality.
These five owners drink a certain type of beverage, smoke a certain brand of cigar and keep a certain pet.
No owners have the same pet, smoke the same brand of cigar or drink the same beverage.
The question is: Who owns the fish?

- Hints
the Brit lives in the red house the Swede keeps dogs as pets the Dane drinks tea
the green house is on the left of the white house the green house's owner drinks coffee the person who smokes Pall Mall rears birds the owner of the yellow house smokes Dunhill the man living in the center house drinks milk the Norwegian lives in the first house the man who smokes blends lives next to the one who keeps cats the man who keeps horses lives next to the man who smokes Dunhill the owner who smokes BlueMaster drinks beer the German smokes Prince the Norwegian lives next to the blue house the man who smokes blend has a neighbor who drinks water

Example: Find the probability of drawing three 7's in a row from a deck of cards without replacement.

$$
4 / 52 \cdot 3 / 512 / 50=1 / 5323
$$

Example: What is the probability of getting a diamond or a queen from a well-shuffled deck of 52 cards?

$$
\begin{gathered}
P(\Delta)+P(Q)-P(\text { both }) \\
\frac{13}{52}+\frac{4}{52}-\frac{1}{52} \\
\left.\frac{16}{52}=\frac{4}{13}\right)
\end{gathered}
$$

Example: A lottery box contains 50 lottery tickets numbered 1 to 50 . If a lottery ticket is drawn at random, what is the probability that the number drawn is a multiple of 3 or 5 ?


## Gallery Walk in Locker Bay

Turn your paper over and find the number at the bottom right hand corner. This is your group number.

You need paper and a calculator only!

## Your Turn!

The problems on the back of the paper are for you and your groups to complete.

## Do them in any order!

We will go over the answers when complete.

WORK TOGETHER!

