

Warm Up Grade 7



1) A student received these marks on 5 math tests:
67%, 84%, 60%, 68% and 78%.

What mark will the student **need** on the **6th test** to make each statement true?

a) The mean of the tests is 72%.

$$\frac{\text{Sum}}{6} = 72$$

$$\text{Sum} = 6 \times 72 = 432$$

$$67 + 84 + 60 + 68 + 78 = 357$$

$$432 - 357 = 75\%$$

2) Find the probability as a fraction, decimal and percent for the following:

total = 46 berries

You have 18 Blueberries, 21 Raspberries and 7 Blackberries

a) $P(\text{blueberries}) = \frac{\# \text{ blue}}{\text{total}}$

$$= \frac{18}{46} \div 2$$

$$= \frac{9}{23}$$

$$= 0.39$$

$$= 39\%$$

Fraction
Top ÷ bott
Decimal
x100
%

b) $P(\text{Blackberries}) = \frac{\# \text{ black}}{\text{total}}$

$$= \frac{7}{46}$$

$$= 0.15$$

$$= 15\%$$

pg 282

$$1a) \text{Prob}(3 \text{ or } 5) = \frac{2}{6} \\ = 0.333 \text{ or } 33.3\%$$

$$b) \text{Prob}(\text{January follow June}) = 0$$

c) 2 oranges, 6 apples, 8 peaches

$$\text{Prob}(\text{orange}) = \frac{2}{16} = 0.125 \text{ or } 12.5\%$$

d) Prob(sun will set) 1, 100%

2. 12 apple, 14 PB, 18 raisin, 10 oatmeal

$$a) \text{Prob}(\text{PB}) = \frac{14}{54} = 0.259 \text{ or } 25.9\%$$

$$b) \text{Prob}(\text{Apple}) = \frac{12}{54} = 0.222 \text{ or } 22.2\%$$

$$3. a) \text{ Prob} = \frac{1}{250} = 0.004 \text{ or } 0.4\%$$

b) 10 tickets

$$\text{Prob (win)} = \frac{10}{250} = 0.04 \text{ or } 4\%$$

c) 25 ticket

$$\text{Prob (not win)} = \frac{225}{250} = 0.9 \text{ or } 90\%$$

4. 5 red, 2 yellow, 3 green, 2 brown,
1 purple, 1 orange, 6 blue

$$a) \text{ Prob (yellow or green)} = \frac{5}{20} = \frac{25}{100} = 0.25 = 25\%$$

$$b) \text{ Prob (blue or red)} = \frac{11}{20} = \frac{55}{100} = 0.55 = 55\%$$

$$c) \text{ Prob (colored)} = 100\% \text{ or } 1 \text{ or } \frac{20}{20}$$

$$d) \text{ Prob (grey)} = 0$$

$$e) \text{ Prob (purple)} = \frac{1}{20} = \frac{5}{100} = 5\% = 0.05$$

5.

a) Prob (Laura) $\frac{1}{8} = 0.125, 12.5\%$

b) Prob (not Jorge) $\frac{7}{8} = 0.875, 87.5\%$

c) Prob (3 letter name) $\frac{4}{8} = 0.5, 50\%$

d) Prob (5 letter name) $\frac{4}{8} = 0.5, 50\%$

e) Prob (4 or more vowels) 0

f) Prob (boy or girl) 1 or 100%

6 Events with

a) 100%

b) $\frac{1}{2}$

c) 1:6

d) 0



Section 7.6 Tree Diagrams



Recall that an OUTCOME is the result of an experiment or action.

Some experiments have two or more actions

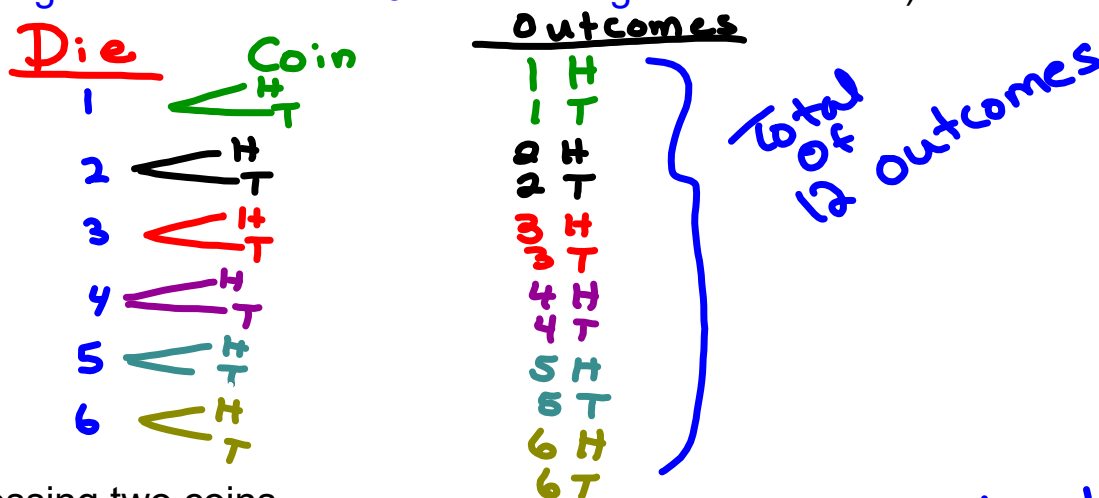
Like Rolling a die and tossing a coin

Like Tossing two coins

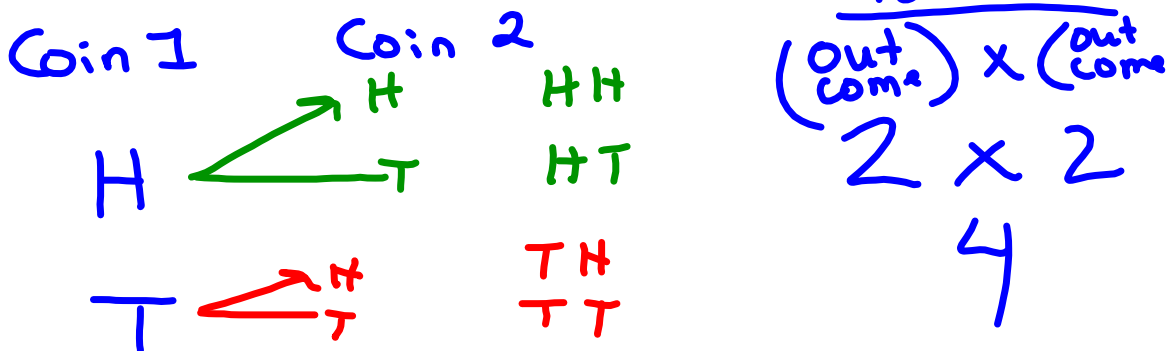
Definition of Tree Diagram

- > A tree diagram shows all the possible outcomes of an event.
- > All possible outcomes of an event are shown by a tree diagram.

Let's do a tree diagram for the following (Always list the possible outcomes)
 Rolling a die labeled 1 to 6 and tossing coin



b) Tossing two coins



Pizza
fries
Soup
Chicken

4x3
12
Total outcomes

Drink
Pop
milk
water

List outcome

meal
Pizza



P P
P M
P W



F P
F M
F W



S P
S M
S W



C P
C M
C W

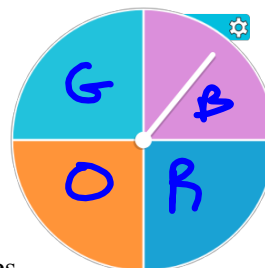
Tree Diagrams

You can find the possible outcomes for any given events using either a chart or a tree diagram.

Two events are **independent** if the results of one event does not depend on the result of the other event.

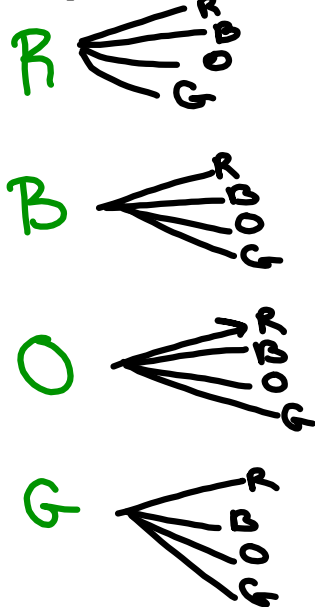
Ex) Spinning a spinner is an independent event, the result from the first spin has no effect on the second spin.

We can use a tree diagram to list all possible outcomes with independent events.



Let's Make A Tree Diagram

First spin Second Spin



Possible Outcomes

- RRR
- RRB
- RRG
- RRR
- RRB
- RRG
- ORR
- ORB
- ORG
- ORR
- ORB
- ORG
- GRR
- GRB
- GRG
- GRR
- GRB
- GRG

Red
Blue
Orange
Green

$P(\text{two red}) =$

$P(\text{Red and Green}) =$

Order doesn't matter here

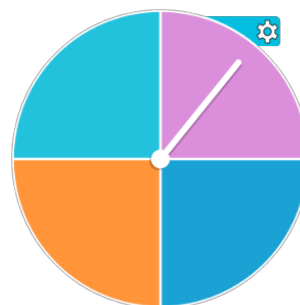
Using Charts and Tree Diagrams

You can find the possible outcomes for any given events using either a chart or a tree diagram.

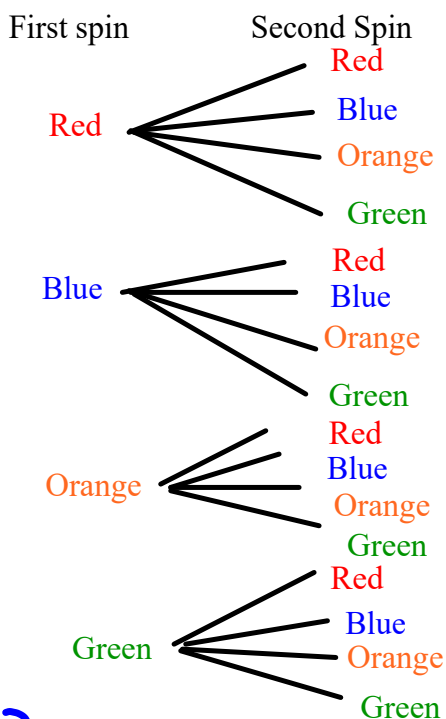
Two events are **independent** if the results of one event does not depend on the result of the other event.

Ex) Spinning a spinner is an independent event, the result from the first spin has no effect on the second spin.

We can use a tree diagram to list all possible outcomes with independent events.



Tree Diagram



Possible Outcomes

- Red Red
- Red Blue
- Red Orange
- Red Green
- Blue Red
- Blue Blue
- Blue Orange
- Blue Green
- Orange Red
- Orange Blue
- Orange Orange
- Orange Green
- Green Red
- Green Blue
- Green Orange
- Green Green

$$\text{Prob}(2 R) = \frac{1}{16}$$

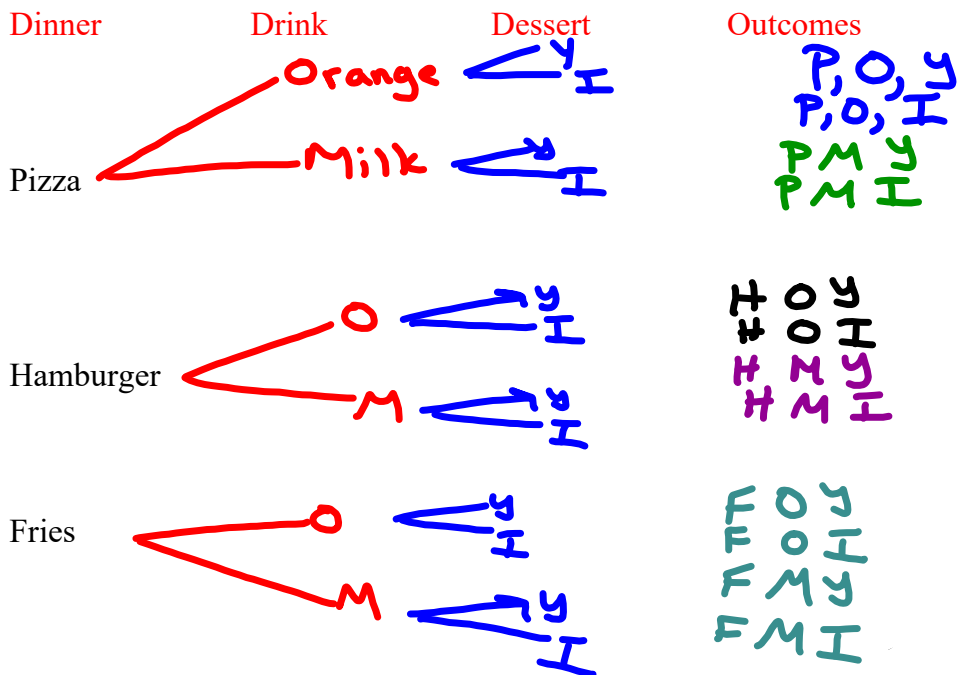
$$\text{Prob}(R \text{ and } G) = \frac{2}{16}$$

$P(\text{two red}) =$

Make a tree diagram

For dinner you have 3 choices; pizza, hamburger or fries, there are 2 choices for the drink; milk or orange juice and there are 2 choices for dessert; yogurt or ice cream.

Tree Diagram



You can also use a table or chart to find all possible outcomes.

Table or Chart

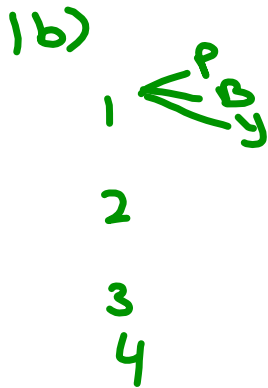
Possible Outcomes	Dinner			Drink		Dessert	
	Pizza	Hamb	Fries	Milk	OJ	Yougurt	Ice Cream
1	✓			✓		✓	
2	✓			✓			✓
3	✓				✓	✓	
4	✓				✓		✓
5		✓		✓		✓	
6		✓		✓			✓
7		✓			✓	✓	
8		✓			✓		✓
9			✓	✓		✓	
10			✓	✓			✓
11			✓		✓	✓	
12			✓		✓		✓

Class/Homework

LIST THE OUTCOMES

pg. 287 # 1abc #2, #3, #4, #5

1a) die coin
H
T



Test in 2 days time

3	H	✓
3	T	✓
4	H	✓
4	T	x
5	H	✓
5	T	✓
6	H	✓
6	T	x
7	H	✓
7	T	✓
8	H	✓
8	T	x

$$\begin{aligned}
 P(\text{odd or H}) &= \frac{9}{12} \\
 &= \frac{3}{4} \\
 &= 0.75 \\
 &= 75\%
 \end{aligned}$$

