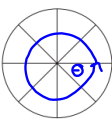


March 25, 2019, Monday
 Billy is creating a circular garden divided into 8 equal sections. The diameter of the garden is 12 feet.



$\theta = ?$
 $\frac{360}{8} = 45^\circ$
 $A = \pi r^2$

Area of a Sector of a Circle
 $Area\ of\ Sector = \frac{\pi r^2 \theta}{360}$
 $= \frac{\pi \cdot 6^2 \cdot 45}{360}$

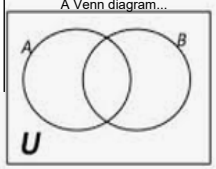
What is the area, in square feet, of one section of the garden? Use $\pi = 3.14$. Explain how you determined your answer. Write your answer in the space provided.

Copy the following Probability vocabulary!!

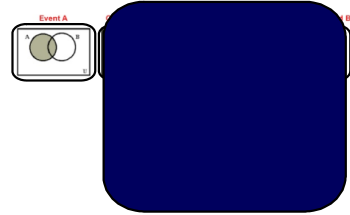
Basic Definitions Summarized
S (Sample Space) → Consists of all possible outcomes

U = "union" \cap = "intersection"
 $A \cup B$ is "either A or B or both"
 $A \cap B$ is "both A and B"
 A^c is "not A"
 $A - B$ is "A but not B"

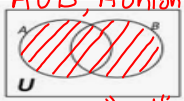
A Venn diagram...




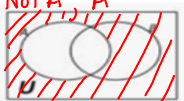
- The **complement** A^c of an event A is the event that A does not occur
- The **union** of two events A and B is the event that either A or B or both occurs
- The **intersection** of two events A and B is the event that both A and B occur



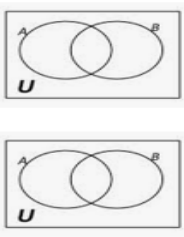
Venn Diagrams...

"or" $A \cup B$, A union B


"and" $A \cap B$, A intersection B


Not A, A^c ← complement


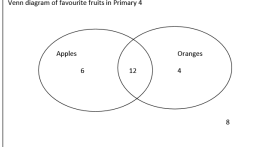
$.25 \ .10 \ .25$
 $.40 \ .40$
 $.40 + .25 + .10 + .25 = 1.0$
 Viola 100%



Venn Diagrams Homework 2 Set

WALT: Read and create 2 set Venn diagrams.
 Look at this Venn diagram and answer the questions that follow on this sheet please:

Venn diagram of favourite fruits in Primary 4

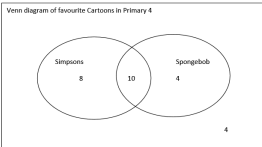


- How many children liked the Apples best? **6**
- How Many children liked Oranges best? **4**
- How many children liked both Apples and Oranges? **12**
- How many children didn't like Apples or Oranges? **8**
- How many children gave answers altogether in this survey? **6+4+12+8=30**

Venn Diagrams 1

WALT: Read and create 2 set Venn diagrams.
 Look at this Venn diagram and answer the questions that follow on this sheet please:

Venn diagram of favourite Cartoons in Primary 4

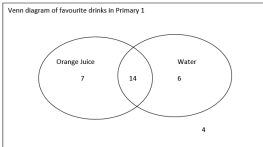


- How many children liked the Simpsons best? **8**
- How Many children liked SpongeBob best? **4**
- How many children liked both SpongeBob and the Simpsons? **10**
- How many children didn't like SpongeBob or Simpsons? **4**
- How many children gave answers altogether in this survey? **26**

Venn Diagrams 2

WALT: Read and create 2 set Venn diagrams.
 Look at this Venn diagram and answer the questions that follow on this sheet please:

Venn diagram of favourite drinks in Primary 1



- How many children liked orange juice best? **7**
- How Many children liked water best? **6**
- How many children liked both orange juice and water? **14**
- How many children didn't like orange juice or water? **4**
- How many children gave answers altogether in this survey? **31**

Venn Diagrams 3

WALT: Read and create 2 set Venn diagrams.

Look at this Venn diagram and use the information below to fill in this empty Venn diagram please:

Venn diagram of favourite subjects in Primary 2

A. 6 children liked Art best.
 B. 5 children liked Music best.
 C. 10 children liked Art and Music.
 D. 4 children didn't like Art or Music best.

Question:
 How many children altogether were involved in this survey? 25

Venn Diagrams 3 Set Homework

WALT: Read and create 3 set Venn diagrams.

Look at this Venn diagram and answer the questions that follow on this sheet please:

A Venn diagram of favourite music in P7.

- How many children liked only pop? 7
- How many children liked rock and hi-hop? 2
- How many children liked only rock? 5
- How many children liked hip-hop and pop? 4
- How many children liked only hip-hop? 8
- How many children liked pop and rock? 6
- How many children liked all 3 types of music? 4
- How many children didn't like any of these musical types? 33
- How many children altogether were involved in the survey? 37

Hats
 Coats
 Scarves

1.	45	
2.	7	
3.	3	
4.	9	
5.	8	
6.	3	
7.	4	
8.	6	9. 5

Venn Diagrams 2

WALT: Read and create 3 set Venn diagrams.

Look at this Venn diagram and answer the questions that follow on this sheet please:

A Venn diagram of colours of football kits.

- How many kits were involved in this survey altogether?
- How many kits were red only
- How many kits were black only?
- How many kits were white only?
- How many kits were red and white?
- How many kits were red and black?
- How many kits were black and white?
- How many kits were red black and white?
- How many kits had no red, black or white in them?

Venn Diagrams 3

WALT: Read and create 3 set Venn diagrams.

Look at this Venn diagram and answer the questions that follow on this sheet please:

A Venn diagram of materials recycled by P4.

- How many children were involved in this survey altogether?
- How many children recycled paper and plastic?
- How many recycled paper only?
- How many children recycled cans and plastic?
- How many children recycled only plastic?
- How many children recycled cans and paper?
- How many children cans only?
- How many children recycled paper, cans and plastic?
- How many children didn't recycle anything at all?

Venn Diagrams 5

WALT: Create 3 set Venn diagrams.

Look at this Venn diagram and use the information below to fill in the Venn diagram please:

A Venn diagram of favourite football teams of Primary 5.

A. 4 children said that they only supported Celtic.
 B. 6 children said that they only supported Arsenal.
 C. 6 children said that they only supported Man Utd.
 D. 8 children said that they liked Celtic and Man Utd.
 E. 7 children said that they liked Arsenal and Man Utd.
 F. 5 children said that they supported Celtic and Arsenal.
 G. 3 children said that they supported all of the teams.
 H. 8 children said that they didn't support any of those teams.

Question:
 How many children altogether were involved in this survey?

Venn Diagrams 6

WALT: Create 3 set Venn diagrams.

Look at this Venn diagram and use the information below to fill in the Venn diagram please:

A Venn diagram of favourite meals of Primary 7 children in 3 schools.

A. 8 children said that they liked pizza and chips but not hamburgers.
 B. 5 children said that they liked hamburgers only.
 C. 6 children said that they liked hamburgers, pizza and chips.
 D. 12 children said that they liked hamburgers and chips but not pizza.
 E. 7 children said that they liked chips only.
 F. 4 children said that they liked pizza and hamburgers but not chips.
 G. 3 children said that they liked pizza only.

Question/Task 2:
 If there were 50 children altogether involved in this survey how many children liked neither pizza, hamburgers or chips? _____

Venn Diagrams 4

Please write this number into the proper place on the above Venn diagram.

WALT: Read and create 3 set Venn diagrams.

Look at this Venn diagram and answer the questions that follow on this sheet please:

A Venn diagram of favourite fruits in P1.

1. How many children didn't like any of these fruits? _____
2. How many children liked all 3 fruits? _____
3. How many children liked only bananas? _____
4. How many children liked bananas and strawberries? _____
5. How many children liked only grapes? _____
6. How many children liked strawberries and grapes? _____
7. How many children liked only strawberries? _____
8. How many children liked only bananas and grapes? _____
9. How many children altogether were involved in the survey? _____

<https://www.youtube.com/watch?v=MassxYy8iko>

Copy the two Venn diagram examples with numbers....do not copy the questions or the answers, just follow along for that part!

March 26, 2019, Tuesday

Item 3
 Selected-Response: 1 point
 In this circle, $m\angle Q = 72^\circ$.

Inscribed angle

What is $m\angle P$?

1. 18°
2. 24°
3. 36°
4. 72°

$\frac{72}{2} = 36^\circ$

Item 4
 Selected-Response: 1 point
 Look at the square pyramid.

A horizontal plane is parallel to the base of the pyramid, which BEST describes the shape of the cross-section?

- A. a rectangle
- B. a pentagon
- C. a triangle
- D. a circle

Handwritten notes: A diagram shows a square pyramid with a horizontal plane cutting through it, resulting in a square cross-section. Below the pyramid are four shapes: a circle, a triangle, a square, and a pentagon. The square is circled in blue.

What is a cross-section???

Handwritten notes: "plane which is cutting the figure", "cross-sections".

Eoc Practice

March 27, 2019 Wednesday

Selected-Response: 1 point

This diagram shows two ladders leaning against a building. Each ladder is leaning at an angle of 70 degrees.

- The length of the short ladder is 8 feet.
- The base of the long ladder is 5 feet farther from the base of the building than the base of the short ladder is.

You do not have to write the question, if you copy the sketch accurately!!

What is the length, to the nearest foot, of the long ladder?

$\sin 70^\circ = 0.9397$
 $\cos 70^\circ = 0.3420$
 $\tan 70^\circ = 2.7475$

A. 10
B. 13
C. 23
D. 26

Geometry - U6 Day 1, 4/21/2017 "How Odd?" Task Part 1

Supplies: Two 6-sided dice or a TI-30 Multiview or TI-84 calculator

1) Roll your pair of dice 30 times, each time recording a success if one or both of the dice show an odd number and a failure if the dice do not show an odd number. Keep a tally in the boxes below.

	Number of Successes	Number of Failures
Total	18	12

2) Based on your trials, what would you estimate the probability of two dice showing at least one odd number? Explain your reasoning.

$\frac{18}{30} = 0.6 \times 100 = 60\%$

3) You have just calculated an **experimental probability**. Thirty trials is generally sufficient to estimate the **theoretical probability**, the probability of what you expect to happen based upon fair chance. For instance, if you flip a coin ten times you expect the coin to land on heads and tails five times each. In reality though, we know that this does not happen every time you flip a coin ten times.

a. A lattice diagram is useful in finding the theoretical probabilities for two dice tossed together. An incomplete lattice diagram is shown on the back of this page. Each possible way the two dice can land, also known as an outcome, is represented as an ordered pair. (1, 1) represents each die landing on a 1, while (4, 5) would represent the first die landing on 4 and the second landing on 5. Why does it have 36 pairs to be filled?

$6 \times 6 = 36$

b. Complete the lattice diagram for rolling two dice. The 36 entries in your dice lattice represent the **sample space** for two dice tossed. The sample space for any probability model is all the possible outcomes.

	Dice Lattice					
1st	(1, 1)	(1, 2)	(1, 3)	(1, 4)	(1, 5)	(1, 6)
2nd	(2, 1)	(2, 2)	(2, 3)	(2, 4)	(2, 5)	(2, 6)
	(3, 1)	(3, 2)	(3, 3)	(3, 4)	(3, 5)	(3, 6)
	(4, 1)	(4, 2)	(4, 3)	(4, 4)	(4, 5)	(4, 6)
	(5, 1)	(5, 2)	(5, 3)	(5, 4)	(5, 5)	(5, 6)
	(6, 1)	(6, 2)	(6, 3)	(6, 4)	(6, 5)	(6, 6)

c. It is often necessary to list the sample space and/or the outcomes of a set using **set notation**. For the dice lattice above, the set of all outcomes where the first roll was a 1 can be listed as $\{(1, 1), (1, 2), (1, 3), (1, 4), (1, 5), (1, 6)\}$. This set of outcomes is a **subset** of the set because all of the **elements** of the subset are also contained in the original set.

State the subset that contains all the elements that add to 9.

$\{(4, 5), (5, 4), (3, 6), (6, 3)\}$

d. What is the probability that the sum of two dice tossed will be 9?

die = 1 die
die = 2 die

$\frac{4}{36} = 11.1\%$
 $\frac{27}{36} = 75\%$

4) The different outcomes that determine the probability of rolling odd can be visualized using a Venn Diagram, the beginning of which is seen below. Each circle represents the possible ways that each die can land on an odd number. Circle A is for the first die landing on an odd number, and Circle B is for the second die landing on an odd number. The circles overlap because some rolls of the two dice will result in both dice landing on odd numbers. In each circle, the overlap, and the area outside the circles, one of the ordered pairs from the lattice has been placed. (1, 4) appears in Circle A because the first die is odd, (6, 5) appears in Circle B because the second die is odd, (5, 1) appears in both circles at the same time (the overlap) because each die is odd, and (2, 6) appears outside of the circles because neither die is odd.

a. Finish the Venn Diagram by placing each of the remaining 32 ordered pairs from the dice lattice in the appropriate place.

2 dice even
1 die odd
1 die even
both dice odd

b. How many outcomes appear in Circle A? (Remember, if ordered pairs appear in the overlap, they are still within Circle A.)

18

c. How many outcomes appear in Circle B?

18

d. The portion of the circles that overlap is called the **intersection**. The notation used for intersections is \cap . For this Venn Diagram the intersection of A and B is written $A \cap B$ and is read as "A intersect B" or "A and B." How many outcomes are in $A \cap B$?

9

e. When you look at different parts of a Venn Diagram together, you are considering the **union** of the two outcomes. The notation for unions is \cup . In this diagram the union of A and B is written $A \cup B$ and is read "A union B" or "A or B." In the Venn Diagram you created, $A \cup B$ represents all the possible outcomes where an odd number shows. How many outcomes are in the union?

27

f. Record your answers to b, c, d, and e in the table below.

b. Circle A	c. Circle B	d. $A \cap B$	e. $A \cup B$
18	18	9	27

g. How is your answer to e $(A \cup B) = A + B - A \cap B$?

$18 + 18 - 9 = 27$

h. Based on what you have seen, make a conjecture about the relationship of A, B, $A \cup B$, and $A \cap B$.

$A + B - A \cap B = A \cup B$

i. What outcomes fall outside of $A \cup B$ (neither die is an odd number)? Why haven't we used those outcomes yet? even, even (2, 2), (2, 4), (2, 6), (4, 2), (4, 4), (4, 6), (6, 2), (6, 4), (6, 6)

In a Venn Diagram the set of outcomes that are **not** included in some set is called the **complement** of that set. The notation for the complement of set A is \bar{A} , read "A bar," or "A, read "not A." For example, in the Venn Diagram you completed above, the outcomes that are outside of $A \cup B$ are denoted $\bar{A \cup B}$.

j. Which outcomes appear in $\bar{A} - B$? NOT A - B

k. Which outcomes appear in $\bar{B} - (A \cup B)$? NOT B - NOT (A U B)

5) The investigation of the Venn Diagram in question 4 should reveal a new probability of rolling at least one odd number on two dice is $\frac{27}{36} = \frac{3}{4}$. How does the Venn Diagram show this probability?

6) Venn Diagrams can also be drawn using probabilities rather than outcomes. The Venn Diagram below represents the probabilities associated with tossing two dice together. In other words, we will now look at the same situation as we did before, but with a focus on probabilities instead of outcomes.

a. Fill in the remaining probabilities in the Venn Diagram.

$P(A) = \frac{18}{36} = 0.5$ $P(B) = \frac{18}{36} = 0.5$

$P(A) - P(A \cap B) = 0.5 - 0.25 = 0.25$

$P(B) - P(A \cap B) = 0.5 - 0.25 = 0.25$

$P(A \cup B) = 0.25 + 0.25 + 0.25 = 0.75$

b. Find $P(A \cup B)$ and explain how you can use the probabilities in the Venn Diagram rather than counting outcomes.

OR: $0.5 + 0.5 - 0.25 = 0.75 = 75\%$

c. Use the probabilities in the Venn Diagram to find $P(\bar{B})$.

$0.25 + 0.25 = 50\%$

d. What relationship do you notice between $P(\bar{B})$ and $P(A \cup B)$?

Probability has to equal 1 because 100%

March 28, 2019, Thursday

Look at the coordinate grid below.

What is the perimeter, in units, of $\triangle PQR$?

A. $4 + \sqrt{2}$
B. 14
C. $9 + \sqrt{17}$
D. 17

Geometry – 16 Day 1, 4/21/2017 "How Odd?" Task Part 2 Name _____

Venn Diagrams can also be used to organize different types of data, not just common sets like that generated from rolling two dice. Let's say we want to investigate the popularity of different genres of music in Sue's math class, particularly Hip Hop and Country music.

1) The results of the poll of her class is shown in the table below:

Hip Hop (HH)	Country (C)	Neither (N)
Dave	Sue	Lee
Melissa	Jim	James
Robert	Rebecca	Dean
Patti	Lori	Maria
Logan	Stuart	Aidan
Anita	Robert	Kylie
Emma	Patti	
Renee	Anita	
Austin	Sarah	
	Renee	
	Greg	
	Steve	
	John	
	Austin	

Draw a Venn Diagram to organize your outcomes.

2) Find $P(HH)$.

3) Find $P(\bar{C})$.

4) Find $P(HH \cap C)$.

5) Find $P(HH \cup C)$.

6) In Part 1, you found the relationship between $A, B, A \cup B$, and $A \cap B$ to be $A \cup B = A + B - (A \cap B)$. In a similar way, write a formula for $P(A \cup B)$.

7) Now find $P(HH \cup C)$ using the formula instead of the Venn Diagram. Did you get the same answer as you did in 5) above?

8) In what situation might you be forced to use the formula instead of a Venn Diagram to calculate the union of two sets?

Venn Diagrams Worksheet

PMath 12

1. Three of the top Canadian paid-circulation magazines are Reader's Digest, Chatelaine, and MacLean's. A market survey has estimated the probability of a household subscribing to these magazines:

Subscription	Probability
Reader's Digest?	0.6
Chatelaine	0.5
MacLean's	0.4
Reader's Digest & Chatelaine	0.2
Reader's Digest & MacLean's	0.25
Chatelaine & MacLean's	0.15
All three	0.05

What is the probability that a household chosen at random

a) subscribes to only Reader's Digest?

b) subscribes to neither Chatelaine nor MacLean's?

c) subscribes to one magazine only?

2. A group of 60 students were asked if they played fieldhockey (F), basketball (B) or soccer (S). The diagram below displays the results.

What percent of the group play:

a) field hockey & basketball?

b) field hockey or basketball?

c) field hockey & soccer?

d) neither of the three sports?

e) only 1 sport?

3. A survey was done to see how many people visit the beach, go camping or go to the waterslides during the summer months. It was found that 35% went camping, 57% went to the beach and 20% went to the waterslides. 15% went camping & to the beach, 8% went to the beach & to the waterslides, 9% went camping & to the waterslides and 3% went to all three. Draw a Venn diagram to display the information and find the percent of the survey population that:

a) went to the beach or went to the slides.

b) went camping or went to the beach.

c) only went to one of the three locations.

d) did none of the three activities.

4. The Venn diagram displays the results of a survey of 100 families regarding technology in their homes. Computer (C), VCR (V) and fax machine (F).

How many families have:

a) a computer at home?

b) all three machines?

c) none of the machines in their home?

d) no fax machine?

e) a computer and a VCR?

f) a VCR or a computer?

5. Each member of a sports club plays at least one of soccer, rugby or tennis. The following is known: 43 members play tennis, 11 play tennis & rugby, 7 play tennis & soccer, 6 play soccer & rugby, 84 play rugby or tennis, 68 play soccer or rugby and 4 play all three sports. How many members does the club have?

6. Of the 28 students in a class, 12 have a part time job, 22 have a part time job or do regular volunteer work, and 4 of the students have a part time job and do regular volunteer work.

a) Display the data in a Venn Diagram.

b) How many of the students do not have a part time job or do not volunteer regularly?

7. Given the Venn Diagram below with set A and set B determine the following:

a) $P(A)$

b) $P(B)$

c) $P(A \cap B)$

d) $P(A \cup B)$

e) $P(\bar{A})$

f) $P(\bar{B})$

g) $P(\bar{A} \cup \bar{B})$

h) $P(A \cap \bar{B})$

Answers:

1. a) 0.20 b) 0.25 c) 0.45

2. a) 8.33% b) 65% c) 11.67% d) 18.33% e) 58.33%

3. a) 69% b) 77% c) 65% d) 13%

4. a) 78% b) 5% c) 3% d) 90% e) 67% f) 96%

5. 97

6. 24

7. a) $\frac{9}{18}$ b) $\frac{7}{18}$ c) $\frac{3}{18}$ d) $\frac{13}{18}$ e) $\frac{9}{18}$ f) $\frac{11}{18}$ g) $\frac{12}{18}$ h) $\frac{5}{18}$

Unit 6 SG Name _____ S _____

For all answers, simplest form required plus two decimal answer.

Use the Venn diagram to find the following probabilities where you are making one choice.

1. P(Older than B)

2. P(Blonde hair \cup Boy)

3. P(Older than B \cap Boy)

4. P(Older than B \cup Blonde hair)

A card is chosen from a standard deck of cards. The drawer is looking for clubs and face cards. Fill in the table.

	Club	Not a Club	Total
Face card	5	15	
Not a face card	10	30	
Total			

5. Find $P(\text{Face Card})$

6. Find $P(\text{Not a Club} \cap \text{Not a Face Card})$

7. Find the probability that a card is a face card, given that we know it is not a club.

602 GEOMETRY 1 | Page

A person rolls two dice, one after the other. Find the probability of the following events.

8. Fill in the sums and double table at right.

	1	2	3	4	5	6
1						
2						
3						
4						
5						
6						

9. Find $P(\text{odd sum or sum of 8})$

10. Find $P(\text{even sum and sum less than 4})$

In a bowl of marbles, there are 4 red ones, 2 green ones, and 4 blue ones.

11. If two marbles are chosen at random **with replacement**, what is the probability of picking a red marble and then, a blue marble?

12. If two marbles are chosen at random **without replacement**, what is the probability that they are both red?

Use the letters in the following sentence to answer:

THE CAKE IS A LIE!

13. If 3 letters are chosen at random, with replacement, what is the probability that an O, D, and D are selected?

14. If 3 letters are chosen at random, without replacement, what is the probability that an I, D, and K are selected?

15. If 3 letters are chosen at random, without replacement, what is the probability that all three letters are an E?

GSE GEOMETRY 1 | Page

Determining if Two Events are Independent $\rightarrow P(A \cap B) = P(A) \cdot P(B)$

16. In a certain high school, the probability that a student drives to school is 30%. The probability that a student is a senior is 35%. The probability that a student is a senior and drives to school is 15%. Are these two events independent?

Use the following spinner for questions 17-20.

17. Find $P(2)$

18. Find $P(1 \cup 4)$

19. Find $P(\text{Number} < 4 \cap \text{even})$

20. Find the probability that the spinner lands on an odd number or a number greater than 5.

GSE GEOMETRY 1 | Page

March 29, 2019, Friday

Item 9

Multi-Part Technology-Enhanced: 2 points

Triangle ABC is similar but not congruent to triangle DEF.

Part A

Which series of transformations could map triangle ABC onto triangle DEF?

A. translation 4 units up, rotation 75° clockwise about the origin
 B. reflection across the line $y = 2$, rotation 90° clockwise about the origin
 C. translation 3 units left, dilation of scale factor 2 centered at the origin
 D. reflection across the line $x = -1$, reflection across the line $y = 5$

Part B

Which equation must be true about triangle ABC and triangle DEF?

A. $AB = DE$
 B. $AC = EF$
 C. $m\angle A + m\angle B = m\angle D + m\angle F$
 D. $m\angle A + m\angle C = m\angle D + m\angle F$

