

Hello!

This is a summer review packet for students entering 7th Grade Vanguard Math.

The purpose of this review packet is to give you a running start in your next mathematics class.

Basic Instructions:

- **All problems should be completed without a calculator.**
- Expect to turn in the completed packet to your teacher on the first day of class.
- You must show any/all work for each problem to receive credit. (Staple any additional work on a separate sheet of paper to the back of this packet)
- The first 50 questions are a review of basic math skills
- The remaining questions are aligned with 6th and 7th grade TEKS and will be used for diagnostic purposes to better help me identify your strengths and weaknesses

Remember: This is for your benefit to help you be more successful as you move into more advanced mathematics classes.

Thanks,

Mrs. Menchaca

7th Grade Math Teacher

Frank Black Middle School

Pre-Algebra – Summer Math Packet

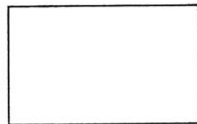
Unit: Knowledge of Algebra, Patterns, and Functions

Objective: Apply given formulas to a problem-solving situation using formulas having no more than three variables.

Example 1:

The perimeter of a rectangle is twice the length (L) plus twice the width (W). $P = 2L + 2W$

Use the given formula to find the perimeter of the rectangle.



8 cm

10 cm

$$P = 2L + 2W$$

$$P = 2(10) + 2(8)$$

$$P = 20 + 16$$

$$P = 36 \text{ cm}$$

Write the equation

Replace L and W with the length and width

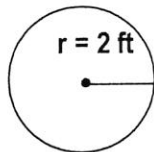
Multiply

Simplify and add the correct label

Example 2:

The area A of a circle equals the product of pi (π) and the square of its radius (r). $A = \pi r^2$ ($\pi \approx 3.14$)

Use the given formula to find the area of the circle.



r = 2 ft

$$A = \pi r^2$$

$$A = 3.14 \cdot (2)^2$$

$$A = 3.14 \cdot 4$$

$$A = 12.56 \text{ ft}^2$$

Write the equation

Replace π with 3.14 and r with 2

Square the 2

Simplify and add the correct label

- 1.) The formula for finding the area of a rectangle is $A = L \cdot W$. Use this formula to find the area of the rectangle.

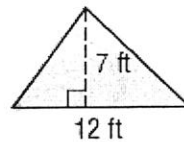


9 cm

4 cm

- 2.) The formula for finding the area of a triangle is

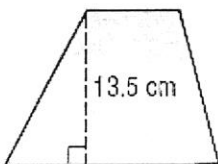
$$A = \frac{1}{2}bh. \text{ Find the area of the triangle below.}$$



12 ft

- 3.) A trapezoid has two bases (b_1 and b_2). The formula for finding the area of a trapezoid is: $A = \frac{1}{2}h(b_1 + b_2)$

$b_1 = 8 \text{ cm}$

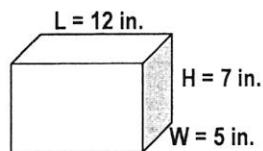


13.5 cm

$b_2 = 18 \text{ cm}$

Find the area of the trapezoid.

- 4.) The formula for finding the volume of a rectangular prism is $V = L \cdot W \cdot H$. Find the volume of the box.



L = 12 in.

H = 7 in.

W = 5 in.

- 5.) Margot planted a rectangular garden that was 18 feet long and 10 feet wide. How many feet of fencing will she need to go all the way around the garden? $P = 2L + 2W$

- 6.) Juan ran all the way around a circular track one time. The diameter (d) of the track is 60 meters. The formula for circumference of a circle is $C = \pi d$. Use this formula to find out how far Juan ran.

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Place Value and Rounding

Give the place value of the underlined digit. Then round the number to that place.

1. 543.26

2. 2.341

3. 482,651.345

4. 1.2222

5. 24,500.05

6. 345,251.267

Comparing and Ordering Decimals

Copy and complete the statement using $<$, $>$, or $=$.

7. 0.4 0.42

8. 0.23 0.230

9. 37.2 37.19

10. 1.05 1.50

Adding and Subtracting Decimals

Find the sum or difference.

11. $5.1 + 2.7$

12. $2.14 + 3.75$

13. $4.21 - 2.1$

14. $1.25 - 1.12$

15. $3.4578 + 6.589$

16. $9.24 - 2.351$

Multiplying and Dividing Decimals

Find the product or quotient.

17. 2.3×6.1

18. 4.1×0.52

19. $1.4 \div 2$

20. $2.55 \div 0.5$

21. 3.09×5.26

22. $36.75 \div 2.45$

Mixed Numbers and Improper Fractions

Write the mixed number as an improper fraction.

23. $1\frac{7}{9}$

24. $2\frac{3}{4}$

25. $12\frac{2}{5}$

26. $6\frac{2}{3}$

Write the improper fraction as a mixed number.

27. $\frac{13}{6}$

28. $\frac{40}{6}$

29. $\frac{100}{3}$

30. $\frac{44}{5}$

Adding and Subtracting Fractions

Find the sum or difference.

31. $\frac{2}{5} + \frac{1}{5}$

32. $\frac{3}{8} + \frac{7}{8}$

33. $\frac{11}{12} - \frac{10}{12}$

34. $\frac{6}{7} - \frac{2}{7}$

35. $\frac{2}{3} + \frac{1}{2}$

36. $\frac{5}{8} - \frac{1}{4}$

Multiplying Fractions and Whole Numbers

Find the product.

$$37. 5 \times \frac{2}{7}$$

$$38. \frac{3}{8} \times 16$$

Geometry

- 39. Find the perimeter of a square with sides 5 inches long
- 40. Find the perimeter of a triangle with sides 2 cm, 7 cm, and 9 cm.
- 41. Find the perimeter of a rectangle with sides 3 cm and 4 cm.
- 42. Find the area of a square with sides 7 feet long.

Percents

Express each decimal as a percent.

$$43. 0.42$$

$$44. 0.375$$

Express each percent as a decimal.

$$45. 21\%$$

$$46. 3.5\%$$

- 47. What is 25% of 500?
- 48. 30 is what percent of 150?
- 49. 12 is 40% of what number?
- 50. What is 70% of 350?

Pre-Algebra – Summer Math Packet

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Unit: Knowledge of Number Relationships & Computation

Objective: Add, subtract, multiply and divide integers. - A

Examples:

ADDITION INTEGER RULES:

For integers with the same sign:

- The sum of two positive integers is POSITIVE.
- The sum of two negative integers is NEGATIVE.

For integers with different signs, subtract their absolute value. The sum is:

- Positive IF the positive integer has the greater absolute value.
- Negative IF the negative integers has the greater absolute value.

Examples:

$$-6 + (-3) = \text{add keep the sign} = -9$$

$$-34 + (-21) = \text{add keep the sign} = -55$$

$$8 + (-7) = \text{subtract keep the sign of the higher} = 1$$

$$-5 + 4 = \text{subtract keep the sign of the higher} = -1$$

SUBTRACTION INTEGER RULES:

- Keep the first number the same
- Switch the subtraction sign to ADDITION
- Change the second number to it's opposite. Opposite: - 6 to 6
- Follow Addition rules above.

Examples:

$$6 - 9 = 6 + (-9) = -3$$

$$-10 - (-12) = -10 + 12 = 2$$

$$-3 - 7 = -3 + (-7) = -10$$

$$1 - (-2) = 1 + 2 = 3$$

1.) Add: $2 + (-7)$

2.) Subtract: $-13 - 8$

3.) Evaluate $a - b$ if $a = -2$ and $b = -7$

4.) Evaluate $x + y + z$ if $x = 3$, $y = -5$, and $z = -2$

5.) In Mongolia the temperature can dip down to -45°C in January. The temperature in July may reach 40°C . What is the temperature range in Mongolia?

6.) Write an addition expression to describe skateboarding situation. Then determine the sum.

Hank starts at the bottom of a half pipe 6 feet below street level. He rises 14 feet at the top of his kickturn.

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On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Unit: Knowledge of Number Relationships & Computation

Objective: Add, subtract, multiply and divide integers. - B

Examples:

MULTIPLYING & DIVIDING INTEGER RULES:

- Two integers with **DIFFERENT** signs the answer is **NEGATIVE**.
- Two integers with **SAME** signs the answer is **POSITIVE**.

Examples:

$5(-2) = 5$ times -2 , the signs are different so the answer will be negative $= -10$

$(-6) \cdot (-9) =$ the signs are the same so the answer will be positive $= 54$

$30 \div (-5) =$ the signs are different so the answer will be negative $= -6$

$-100 \div (-5) =$ the signs are the same so the answer will be positive $= 20$

1.) Multiply: $-14(-7)$

2.) Divide: $350 \div (-25)$

3.) Evaluate if $a = -3$ and $c = 5$

$$-3ac$$

4.) Evaluate if $d = -24$, $e = -4$, and $f = 8$

$$\frac{de}{f}$$

5.) A computer stock decreased 2 points each hour for 6 hours. Determine the total change in the stock value over the 6 hours.

6.) A submarine descends at a rate of 60 feet each minute. How long will it take it to descend to a depth of 660 feet below the surface?

Pre-Algebra – Summer Math Packet

Unit: Knowledge of Algebra, Patterns, and Functions

Objective: Determine the unknown in a linear equation with 1 or 2 operations

Remember, equations must always remain balanced.

- If you add or subtract the same number from each side of an equation, the two sides remain equal.
- If you multiply or divide the same number from each side of an equation, the two sides remain equal.

Example 1: Solve $x + 5 = 11$

$$\begin{array}{rcl} x + 5 & = & 11 \\ - 5 & = & - 5 \\ \hline x & = & 6 \end{array}$$

Write the equation
Subtract 5 from both sides
Simplify



Check

$$\begin{array}{rcl} x + 5 & = & 11 \\ 6 + 5 & = & 11 \\ 11 & = & 11 \checkmark \end{array}$$

Write the equation
Replace x with 6
The sentence is true

Example 2: Solve $-21 = -3y$

$$\begin{array}{rcl} -21 & = & -3y \\ -3 & = & -3 \\ \hline 7 & = & y \end{array}$$

Write the equation
Divide each side by -3
Simplify



Check

$$\begin{array}{rcl} -21 & = & -3y \\ -21 & = & -3(7) \\ -21 & = & -21 \end{array}$$

Write the equation
Replace the y with 7
Multiply – is the sentence true?

Example 3: Solve $3x + 2 = 23$

$$\begin{array}{rcl} 3x + 2 & = & 23 \\ - 2 & = & - 2 \\ \hline 3x & = & 21 \\ \frac{3x}{3} & = & \frac{21}{3} \\ x & = & 7 \end{array}$$

Write the equation
Subtract 2 from each side
Simplify
Divide each side by 3
Simplify



Check

$$\begin{array}{rcl} 3x + 2 & = & 23 \\ 3(7) + 2 & = & 23 \\ 21 + 2 & = & 23 \\ 23 & = & 23 \end{array}$$

Write the equation
Replace x with 7
Multiply
Add – is the sentence true?

1.) Solve $x - 9 = -12$

2.) Solve $48 = -6r$

3.) Solve $2t + 7 = -1$

4.) Solve $4t + 3.5 = 12.5$

5.) It costs \$12 to attend a golf clinic with a local pro. Buckets of balls for practice during the clinic cost \$3 each. How many buckets can you buy at the clinic if you have \$30 to spend?

6.) An online retailer charges \$6.99 plus \$0.55 per pound to ship electronics purchases. How many pounds is a DVD player for which the shipping charge is \$11.94?

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Pre-Algebra – Summer Math Packet

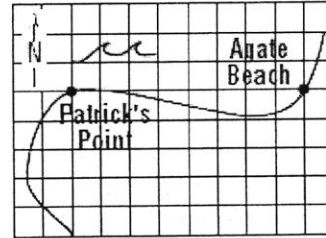
Unit: Knowledge of Measurement

Objective: Determine the distance between 2 points using a drawing and a scale.

A **scale drawing** represents something that is too large or too small to be drawn at actual size. Similarly, a **scale model** can be used to represent something that is too large or too small for an actual-size model. The **scale** gives the relationship between the drawing/model measure and the actual measure.

Example: On this map, each grid unit represents 50 yards. Find the distance from Patrick's Point to Agate Beach.

Scale		Patrick's Point to Agate Beach	
map	→ 1 unit	=	8 units ← map
actual	→ 50 yards	=	x yards ← actual
$1 \cdot x = 50 \cdot 8$ cross multiply			



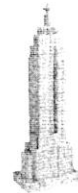
$$x = 400 \quad \text{**simplify**}$$

It is 400 yards from Patrick's Point to Agate Beach.

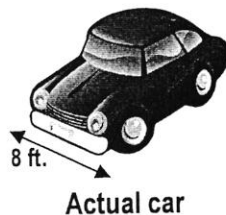
- 1.) On a map, the distance from Los Angeles to San Diego is 6.35 cm. The scale is 1 cm = 20 miles. What is the actual distance?



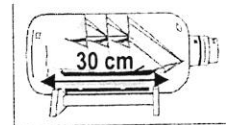
- 2.) Lexie is making a model of the Empire State Building. The scale of the model is 1 inch = 9 feet. The needle at the top is 31.5 feet tall. How big should the needle be on the model?



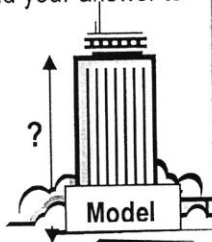
- 3.) A scale drawing of an automobile has a scale of 1 inch = ½ foot. The actual width of the car is 8 feet. What is the width on the scale drawing?



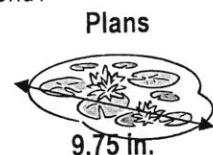
- 4.) A model ship is built to a scale of 1 cm : 5 meters. The length of the model is 30 centimeters. What is the length of the actual ship?



- 5.) Jose wants to build a model of a 180-meter tall building. He will be using a scale of 1.5 centimeters = 3.5 meters. How tall will the model be? Round your answer to the nearest tenth.



- 6.) A pond is being dug according to plans that have a scale of 1 inch = 6.5 feet. The maximum distance across the pond is 9.75 inches on the plans. What will be the actual maximum distance across the pond?



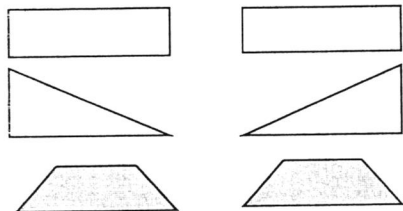
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Pre-Algebra – Summer Math Packet

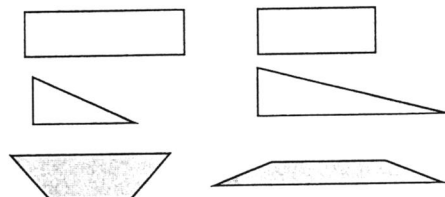
Unit: Knowledge of Geometry

Objective: Determine the congruent parts of polygons.

Congruent Polygons

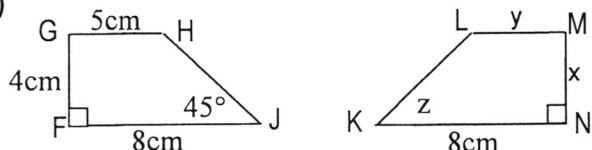


Non Congruent Polygons



Congruent Polygons	Polygons that have exactly the same size and the same shape
Congruent Segments	Segments that have the same length
Congruent Angles	Angles that have the same measure
Corresponding Sides of a Polygon	Sides of a polygon that are matched up with sides of another congruent or similar polygon
Corresponding Angles of a Polygon	Angles of a polygon that match up with angles of another congruent or similar polygon
$\triangle ABC \cong \triangle DEF$ 	Corresponding sides and angles of congruent polygons are congruent: $\overline{AB} \cong \overline{DE}$ $\angle A \cong \angle D$ $\overline{BC} \cong \overline{EF}$ $\angle B \cong \angle E$ $\overline{AC} \cong \overline{DF}$ $\angle C \cong \angle F$

1.)



Polygon $FGHI \cong$ polygon $NMLK$

Complete the following congruence statements.

a) $\overline{GH} \cong$ _____ b) $\overline{KL} \cong$ _____ c) $\overline{FJ} \cong$ _____

2.) Use the figures in problem #1 to complete the following congruence statements.

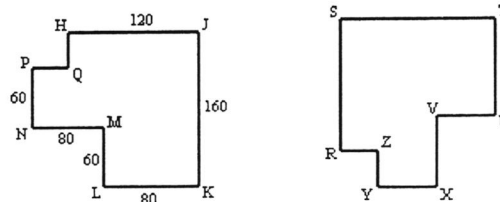
a) $\angle G \cong$ _____ b) $\angle K \cong$ _____

c) $\angle H \cong$ _____ d) $\angle F \cong$ _____

3.) Look at the figures in problem #1. Determine the measure of each segment or angle.

a) $x =$ _____ b) $y =$ _____ c) $z =$ _____

4.) Polygon $HJKLMNPQ$ is congruent to polygon $RSTUVXYZ$. What is the length, in units, of RZ ? (Note: Figures are not drawn to scale.)



On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Pre-Algebra – Summer Math Packet

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Unit: Knowledge of Number Relationships & Computation

Objective: Determine rate of increase and decrease, discounts, simple interest, commission, sales tax. - A

Examples:

- A percent of change is a ratio that compares the change in quantity to the original amount. If the original quantity is increased, it is a PERCENT OF INCREASE. If the original quantity is decreased, it is a PERCENT OF DECREASE.

Last year 2,376 people attended the rodeo. This year, attendance was 2,950. What was the percent of change in attendance to the nearest whole percent?

- Since this year's attendance is greater than last year's attendance, this is a percent of INCREASE.
- The amount of increase is $2,950 - 2,376 = 574$. (Percent of DECREASE: original – new.)
- Use the proportion: $\frac{\%}{100} = \frac{\text{amount of change}}{\text{original amount}}$ $\frac{n}{100} = \frac{574}{2,376}$ $n = 0.24$ or 24%
- The rodeo attendance increased by about 24%.

DISCOUNT

Determine the price of a \$69.50 tennis racket that is on sale for 20% off.

- Use the percent proportion to determine the amount of discount.

$$\frac{20}{100} = \frac{n}{69.50} \quad 20 \times 69.50 = 100n$$

$$\frac{1390}{100} = \frac{100n}{100}$$

$$13.90 = n$$

The amount of discount is \$13.90

- Subtract the amount of discount from the price. $69.50 - 13.90 = \$55.60$
The sale price of the tennis racket is \$55.60.

1.) Determine the percent of change. Round to the nearest whole percent if necessary. State whether the percent of change is an INCREASE or DECREASE.

Original: 250
New: 100

2.) Determine the sale price to the nearest cent.

\$39.00 jeans
40% off

3.) Determine the percent of change. Round to the nearest whole percent if necessary. State whether the percent of change is an INCREASE or DECREASE.

Original: \$84
New: \$100

4.) Justin is buying a cell phone that has a regular price of \$149. The cell phone is on sale for 15% off the regular price. What will be the sale price?

5.) Alicia planted 45 tulip bulbs last year. This year she plans to plant 65 bulbs. Determine the percent of increase in the number of tulip bulbs to the nearest tenth.

6.) You want to buy a new sweater. The regular price was \$48 dollars. The sale price was \$34. What was the percent of discount to the nearest percent?

Pre-Algebra – Summer Math Packet

Unit: Knowledge of Algebra, Patterns, and Functions

Objective: Graph ordered pairs in a coordinate plane.

The **coordinate plane** is used to locate points. The horizontal number line is the **x-axis**. The vertical number line is the **y-axis**. Their intersection is the **origin**.

Points are located using **ordered pairs**. The first number in an ordered pair is the **x-coordinate**; the second number is the **y-coordinate**.

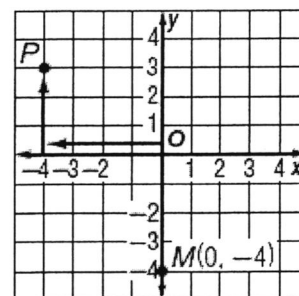
The coordinate plane is separated into four sections called **quadrants**.

Example 1: Name the ordered pair for point P. Then identify the quadrant in which P lies. Quadrant 2

- Start at the origin.
- Move 4 units left along the x-axis.
- Move 3 units up on the y-axis.

The ordered pair for point P is $(-4, 3)$.

P is in the upper left quadrant or quadrant II.



Quadrant 3

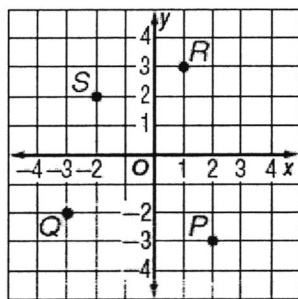
Quadrant 4

Example 2: Graph and label the point M $(0, -4)$.

- Start at the origin.
- Move 0 units along the x-axis.
- Move 4 units down on the y-axis.
- Draw a dot and label it M $(0, -4)$.

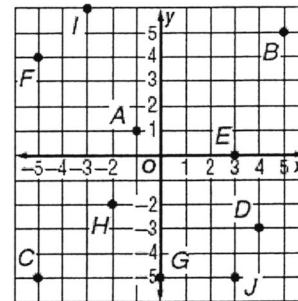
1.) Name the ordered pair for each point graphed at the right. Then identify the quadrant in which each point lies.

Coordinates	Quadrant
P (__, __)	__
Q (__, __)	__
R (__, __)	__
S (__, __)	__



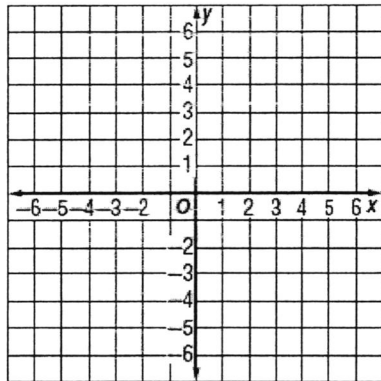
2.) Find each of the points below on the coordinate plane. Then identify the quadrant in which each point lies.

Coordinates	Quadrant
A (__, __)	__
J (__, __)	__
B (__, __)	__
H (__, __)	__



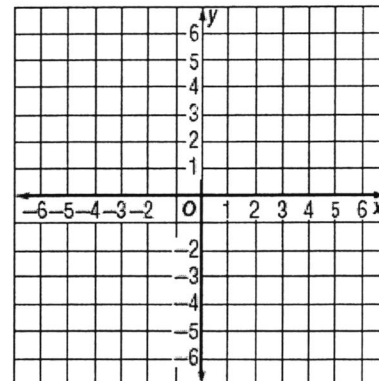
3.) Graph and label each point on the coordinate plane.

- N $(3, -1)$
- P $(-2, 4)$
- Q $(-3, -4)$
- R $(0, 0)$
- S $(-5, 0)$



4.) Graph and label each point on the coordinate plane.

- D $(0, 4)$
- E $(5, 5)$
- G $(-3, 0)$
- H $(-6, -2)$
- J $(0, -2)$



On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Pre-Algebra – Summer Math Packet

Unit: Knowledge of Probability

Objective: Make predictions and express probability of the results of a survey or simulation as a fraction, decimal, or percent. - B

Examples:

Probability is a way to measure the chance that an event will occur. You can use this formula to determine the probability, P, of an event.

$$P = \frac{\text{number of favorable outcomes}}{\text{number of possible outcomes}}$$

Probability can be expressed as a FRACTION, DECIMAL, or PERCENT.

A jar contains 10 purple, 3 orange, and 12 blue marbles. A marble is drawn at random. Determine the probability that you will pick a purple marble. Express your answer in a fraction, decimal, and %.

Step 1 – Determine the total # of marbles. $10 + 3 + 12 = 25$

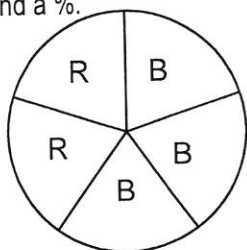
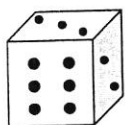
Step 2 – Determine the probability of picking a purple marble. $P(\text{purple}) = \frac{\text{number of purple}}{\text{Total marbles}} = \frac{10}{25} \div 5 = \frac{2}{5}$

Step 3 – Simplify the fraction.

Step 4 – Convert Fraction to a Decimal – Divide. $2 \div 5 = 0.4$

Step 5 – Convert Decimal to a % - Move decimal 2 places to the right. $0.4 = 40\%$

- 1.) A six-sided number cube is rolled, and the spinner below is spun. Determine the probability of rolling a 3 and spinning blue. (B=blue, R=red) Express your answer as a fraction, a decimal, and a %.



- 2.) When Monica rolled her number cube 100 times, she had these results:

Number on cube	Frequency
1	12
2	18
3	21
4	16
5	17
6	16

What is the experimental probability of rolling a number less than 3? Express your answer as a fraction, a decimal, and a percent.

- 3.) A jar contains 15 orange, 14 white, 10 pink, 2 green, and 9 blue marbles. A marble is drawn at random. Determine the probability for the following situation. Express your answer in Fraction, Decimal, and % forms.

P (not blue) =



- 4.) A jar contains 15 orange, 14 white, 10 pink, 2 green, and 9 blue marbles. A marble is drawn at random. Determine the probability for the following situation. Express your answer in Fraction, Decimal, and % forms.

P (pink or orange) =

- 5.) A six-sided die is rolled 20 times and the results are recorded as follows: 3 ones, 4 twos, 5 threes, 2 fours, 4 fives, 2 sixes. What is the experimental probability of rolling a number greater than four? Express your answer in Fraction, Decimal, and % forms.

- 6.) A six-sided die is rolled 25 times and the results are recorded as follows: 4 ones, 5 twos, 5 threes, 3 fours, 4 fives, 4 sixes. What is the experimental probability of rolling a number greater than four? Express your answer in fraction, decimal, and % forms.

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Pre-Algebra – Summer Math Packet

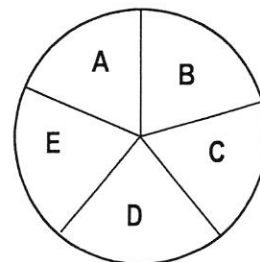
Unit: Knowledge of Probability

Objective: Determine the probability of an event comprised of 2 independent events.

Examples:

- **INDEPENDENT EVENTS:** the outcome of one event does NOT affect the outcome of the 2nd event.
- The probability of two independent events can be found by multiplying the probability of the first event by the probability of the second event.
- $P(A \text{ and } B) = P(A) \cdot P(B)$

A number cube is rolled, and the spinner at the right is spun.
Determine the probability of rolling a 2 and spinning a vowel.



$$P(2 \text{ and vowel}) = P(2) \cdot P(\text{vowel})$$

$$\frac{1}{6} \cdot \frac{2}{5} = \frac{2}{30} = \frac{1}{15}$$

A coin is tossed and a number cube is rolled. Find the probability of tossing tails and rolling a 5.

$$P(\text{tails}, 5) = P(\text{tails}) \times P(5)$$

$$\frac{1}{2} \times \frac{1}{6} = \frac{1}{12}$$

1.) A coin is tossed, and a number cube is rolled. What is the probability of tossing heads, and rolling a 3 or a 5?

2.) A red and a blue number cube are rolled. Determine the probability that an odd number is rolled on the red cube and a number greater than 1 is rolled on the blue cube.

3.) One letter is randomly selected from the word PRIME and one letter is randomly selected from the word MATH. What is the probability that both letters selected are vowels?

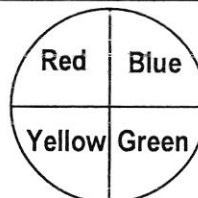
4.) What is the probability of spinning a number greater than 5 on a spinner numbered 1 to 8 and tossing a tail on a coin?

5.)

Kid's Carnival Meals	
Choose 1 from each column	
Chicken Nuggets	French Fries
Hamburger	Apple slices
Cheeseburger	
Pizza	

What is the probability that Joey will choose a hamburger and apple slices?

6.)



For his probability experiment, Ryan is going to spin a spinner and roll a six-sided number cube. What is the probability of spinning "Red" and rolling a "2"?

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5

Pre-Algebra – Summer Math Packet

Unit: Knowledge of Statistics

Objective: Compare the measures of central tendency (mean, median, mode) to determine which is most appropriate.

Examples:

	MEAN	MEDIAN	MODE
What is it?	Average	Middle #	# shown the MOST often
How to find it?	Sum of Data (+) # of Data Points (÷)	Order data from least to greatest, then find the middle # 2 middle #s - Average	Look at data & Find the # that appears the most. 2 modes – Bimodal
Most Useful when:	-- Data has no outliers Outliers are REALLY low & high #s	-- Data has outliers -- There are no large gaps in the middle of the data	-- Data has many identical (same) #s

Use the table at the right.

Find the mean, median, & mode of the data.

Mean: 488.3

Median: 150

Mode: None

Caribbean Islands			
Island	Area (Sq Mi)	Island	Area (Sq Mi)
Antigua	108	Martinique	425
Aruba	75	Puerto Rico	3,339
Barbados	166	Tobago	116
Curacao	171	Virgin Islands, UL	59
Dominica	290	Virgin Islands, US	134

Which measure of central tendency would be misleading in describing the size of the islands? Explain.

The mean could be misleading since the areas of all but one of the islands are less than that value.

Which measure would most accurately describe the data? Median

Use the table that shows the miles of shoreline for five states to answer questions 1 – 3.

Miles of Shoreline	
State	Length of Shoreline (mi)
Virginia	3,315
Maryland	3,190
Washington	3,026
North Carolina	3,375
Pennsylvania	89

1.) Determine the mean, median, and mode of the data.

2.) Which measure of central tendency is misleading in describing the miles of shoreline for the states? Explain.

3.) Which measure of central tendency most accurately describes the data? Explain.

Book Sales: Use the table below that shows the number of books sold each day for 20 days to answer questions 4 – 5.



Book Sales Per Day			
23	18	23	15
24	16	0	11
19	10	13	17
12	23	11	16
36	24	12	27

4.) Determine the mean, median, & mode of the data.

5.) Which measure of central tendency would be misleading in describing the book sales & which measure most accurately describes the data? Explain.

6.) Michael & Melissa both claim to be earning a C average, 70% to 79%, in their Latin Class. Use the table below to explain their reasoning and determine which student is earning a C average.

GRADES (%)							
	Test 1	Test 2	Test 3	Test 4	Test 5	Test 6	Test 7
Michael	80	76	73	70	40	25	10
Melissa	88	83	75	70	60	65	62

On a scale of 1 – 5 (1: Weak, 5: Strong) rate yourself on this section of math: 1 2 3 4 5