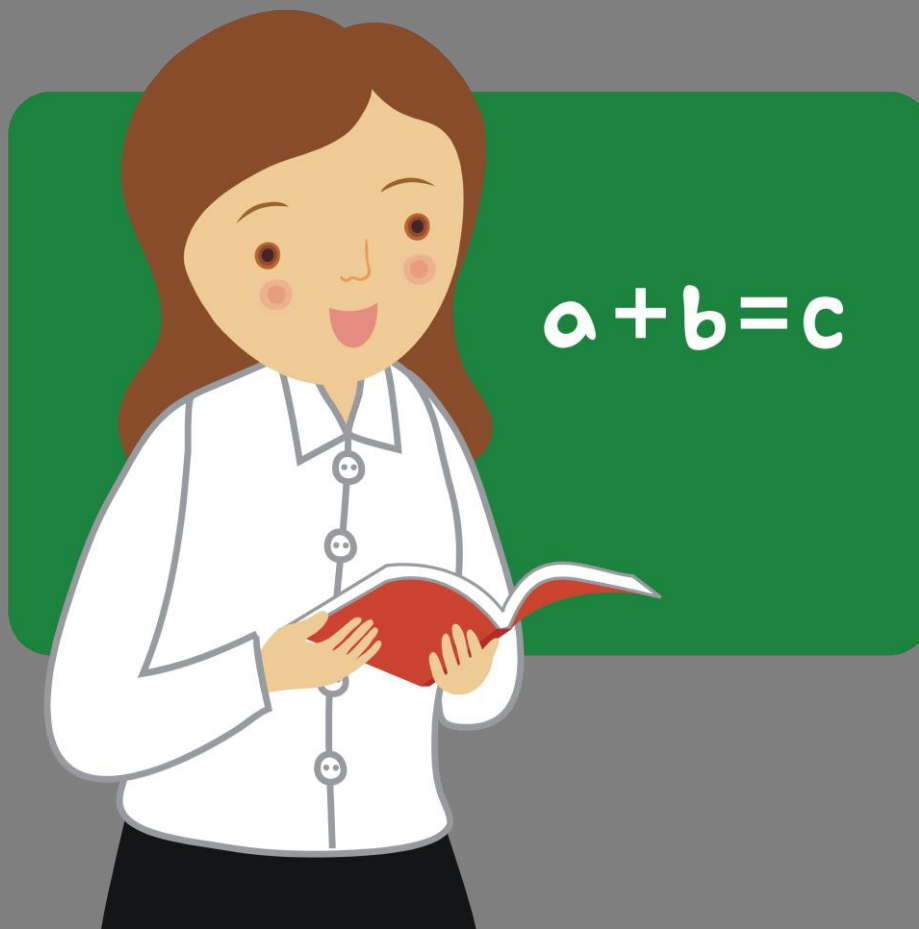


Grade

7

SRPSD Math Common Assessment



Instructions

Administering the Assessments

1. This assessment has been developed with the intention of being split up into individual outcomes and given upon completion of instruction/units throughout the year and **not** as a comprehensive test in June.
2. The division expectation is for the assessment to be given as **both** a pre (formative) and post (summative) assessment which will be entered into SRPSD database.
3. Use professional judgment on whether this assessment is given orally or in written form. The intent is to assess mathematical understanding.
4. Refer to the last few pages for any paper manipulatives needed to administer certain questions. Teachers will have to print off a copy for their class.
5. Calculator use is only allowed where indicated.
6. In the case that a student answers a level 4 question correctly but misses the level 2 or 3, the teacher will need to:
 - a) reassess
 - b) use professional judgment (teacher knows student best).
7. This assessment is not intended to assess ELA reading or writing outcomes therefore questions can be read to students and answers can be scribed when needed.
8. The corrected pre-tests are not to be showed to the students as it will affect post-test results.

Part A: Number Strand

N7.1 Demonstrate an understanding of division through the development and application of divisibility strategies for 2, 3, 4, 5, 6, 8, 9, and 10, and through an analysis of division involving zero.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to use divisibility strategies.	Student is able to use (2, 5, 10) divisibility strategies for a given number.	Student is able to use divisibility strategies for a given number including zero.	Student is able to explain their strategy for dividing a quantity into groups.

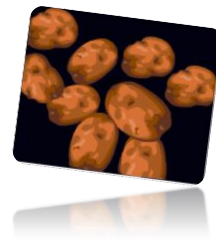
1. Write all of the numbers that are divisible

36 57 11 85 110 222 1000

- a) by 2
- b) by 5
- c) by 10

2. A grocery store sells potatoes in bags that weigh 4 KG. Explain with divisibility strategies whether you can buy exactly:

- a) 45Kg
- b) 128 Kg
- c) 0 Kg



Part A: Number Strand

N7.2a Expand and demonstrate understanding of the addition, subtraction, multiplication, and division of decimals to greater numbers of decimal place.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to do operations with decimals.	Student is able to add and subtract decimals.	Student is able to add, subtract, multiply, divide decimals, if needed, with the use of a multiplication chart.	Student is able to solve situational problems and justify the reasonableness of the solution.

1. Solve the following:

a) $2.368 + 0.016$

b) $5.2 - 4.32$

c) 2.7×2.12

d) $5.95 \div 0.5$

2. Dietta's family wants to go to the movies. To make a plan, she phones the theater to determine what the adult and student prices are. Using her note below determine how much it will cost for her entire family to go and watch a show.



Number of People	Individual Cost
2 Adults	\$8.75
3 Students	\$6.25

If you have \$40.00, do you have enough? Explain.

Part A: Number Strand**N7.2b** Expand and demonstrate understanding of decimals using the order of operations.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance in determining the order of operations.	Student understands the order of operations but is inconsistent in solving.	Student demonstrates an understanding of the order of operations with decimals.	Student explains where an error has occurred in a problem involving decimals and order of operations.

1. Solve the following:

a) $(9.8 - 3.2) \div (0.4 + 2.6)$

b) $0.38 + 16.2 \times (2.1 - 1.2) + 24 \div 0.8$

2. Aida and Norman got different answers for this problem: $12 \times (4.8 \div 0.3) - 3.64 \times 3.5$
Aida's answer was 179.26 and Norman's answer was 659.26.

a) Which student did it wrong and where did they go wrong?

Part A: Number Strand

N7.3 Demonstrate an understanding of the relationships between positive decimals, positive fractions (including mixed numbers, proper fractions and improper fractions), and whole numbers.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to order a set of numbers.	Student is able to order only a set of fractions or a set of decimals but not when they are combined.	Student is able to order a set of numbers including fractions, decimals (repeating and terminating), and whole numbers.	Student is able to order a set of numbers including fractions, decimals (repeating and terminating), and whole numbers and justify their thinking.

1. Order the following numbers:

a) 0.6, 0.85, 0.45, 0.4, 0.68

b) $\frac{2}{3}$, $\frac{1}{4}$, $\frac{3}{5}$, $\frac{3}{8}$

2. At a birthday party, the children ate the following portions of pizza.



Joshua ate 1 pepperoni pizza.

Nicholas ate $\frac{4}{3}$ of a cheese pizza.

Jesse ate $0.\overline{6}$ of a deluxe pizza.

Justin ate $1\frac{3}{4}$ of an all meat pizza.

- a) Matt ate an amount of pizza more than Nicholas and less than Justin. How much pizza did Matt eat?
- b) Use a strategy to order who ate the least to the most pizza.

Part A: Number Strand

N 7.4 Expand and demonstrate an understanding of percent to include fractional percent between 1% and 100%.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to represent percent.	Student is able to represent a fractional percent between 1% and 100%.	Student is able to solve problems involving percent.	Student can apply percent to a real life situation and justify their decision.

1. Complete the chart:

Per Cent	Decimal	Fraction
20%		

2. Joe got 3 out of 4 questions correct on his test. What percentage is that? Show your work below.

3. A SaskTel phone card regularly priced at \$20.00 is on sale for \$15.00. A Rogers's phone card valued at \$10.00 is on sale for \$7.00. Which of these offers the greatest discount?



Part A: Number Strand

N 7.5 Develop and demonstrate an understanding of adding and subtracting positive fractions and mixed numbers, with like and unlike denominators, concretely, pictorially, and symbolically (limited to positive sums and differences)

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance in adding and subtracting fractions.	Student is able to add and subtract fractions with like denominators. (concretely, pictorially, symbolically)	Student is able to add and subtract fractions including mixed numbers. (concretely, pictorially, symbolically)	Student is able to explain how the sum or difference of fractions can be represented symbolically in different ways.

1. Write each sum or difference.

a) $\frac{7}{5} + \frac{3}{5}$

b) $\frac{4}{8} - \frac{2}{8}$

c) $4\frac{1}{2} + 2\frac{1}{5}$

d) $3\frac{1}{10} - 1\frac{4}{5}$

e) Solve c) another way.

Part A: Number Strand

N7.6 Demonstrate an understanding of addition and subtraction of integers, concretely, pictorially, and symbolically.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance in adding and subtracting integers.	Student is able to add or subtract integers. (concretely, pictorially, symbolically)	Student is able to add and subtract integers. (concretely, pictorially, symbolically)	Student is able to apply their understanding of adding and subtracting integers to a situational problem.

1. Evaluate.

a) $(+4) - (+2)$

b) $(-4) + (-7)$

c) $(-3) - (-5)$

d) $(-9) + (+9)$

2. Nicholas is staying at a hotel for a swim meet in Saskatoon. He begins on the 3rd floor. He takes the elevator up 5 floors and then down 7 floors and gets off. With the aid of a picture, write a number sentence and identify what floor he is now on.



Part B: Pattern & Relations Strand

P7.1 Demonstrate an understanding of the relationships between oral and written patterns, graphs and linear relations.

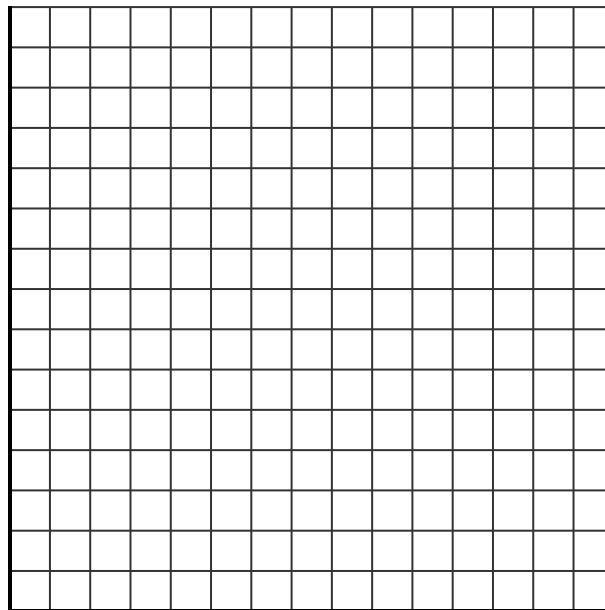
Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to create a table of values and graph a linear relation.	Student is able to create a table of values for a linear relation and graph it.	Student is able to create a table of values, graph it and describe the patterns found in the graph.	Student is able to describe a real life situation related to a graph.

1. For the relation $4 + 2m$ is related to m

a) Complete table of values for the relation $4 + 2m$

Input	Output

b) Graph the relation.



c) Describe the patterns found in the graph.

d) Describe a real-life situation that could be represented by the relation.

Part B: Pattern & Relations Strand

P7.2 Demonstrate an understanding of equations and expressions by distinguishing between equations and expressions, evaluating expressions, and verifying solutions to equations.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student is able to explain or justify the difference between an expression and an equation.	Student is able to create a table of values for an expression.	Student is able to determine the expression when given a table of values.	Student is able to give a real life situation for a given expression.

1. $2n + 3 = 13$ Is this an expression or an equation. Explain.

2. Complete the Input/Output table for $3m - 1$

Input	Output
1	
2	
3	
4	

3. Determine the expression from the Input/Output table.

Input	Output
1	5
2	7
3	9
4	11

4. For the expression you just wrote down, describe a real life situation it could represent.



Name: _____

Part B: Pattern & Relations Strand

P 7.3 Demonstrate an understanding of one- and two-step linear equations of the form $ax/b + c = d$ (where $a, b, c,$ and d are whole numbers, $c \leq d$ and $b \neq 0$) by modeling the solution of the equations concretely, pictorially, physically, and symbolically and explaining the solution in terms of the preservation of equality.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to solve linear equations.	Student is able to solve one-step linear equations using whole numbers.	Student is able to solve two step linear equations using whole numbers.	Student is able to use a real life situation to solve an equation and verify the solution.

1. Solve for the variable

a) $5n = 25$

b) $\frac{x}{4} = 16$

2. a) $3n + 4 = 16$

b) $72 + 2w = 288$

3. Peter works as a counsellor at a summer camp. He is paid \$9.00 an hour. He was given a \$5 bonus for organizing a scavenger hunt. How many hours did Peter work if he was paid \$248.



a) Create an equation.

b) Explain the steps involved in solving the above equation and then solve. Verify your solution.



Name: _____

Part B: Pattern & Relations Strand

P7.4 Demonstrate an understanding of linear equations of the form (where a and b are integers) by modeling problems as a linear equation and solving the problems concretely, pictorially, and symbolically.

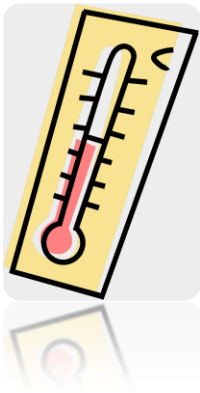
Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to solve one step whole number equations.	Student is able to solve single step linear equations only with positive integers.	Student is able to solve single step linear equations with integers.	Student is able to use a real life situation to solve a one- step linear equation (using integers) and verify the solution.

1. Solve.

a) $x + 3 = 10$

b) $x + (-4) = -11$

2. At the end of the day, the temperature is -16°C . During the day it dropped 12°C . What was the temperature in the morning? Write an equation to represent, solve and verify.





Name: _____

Part C: Shape & Space Strand

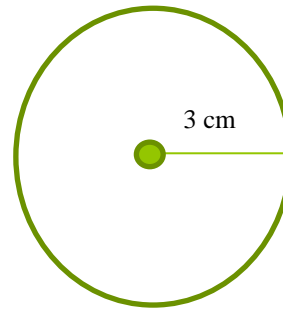
SS 7.1 Demonstrate understanding of circles including circumference and central angles.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to label the circumference, radius and diameter of a circle.	Student understands the relationship between radius, and diameter.	Student is able to solve the circumference of a circle and understand what central angles are.	Student is able to solve situational problems involving circles and justify their answer.

1. If a radius of a circle is 3 cm,

a) What is the diameter?

b) What is the circumference?



c) What is the sum of the central angles in the circle?

2. A circular garden has a diameter of 2.4 m.

a) The garden is to be enclosed with plastic edging. How much edging is needed?



b) The edging costs \$4.53/m. You have a budget of \$40.00 will you have enough to buy the edging?



Name: _____

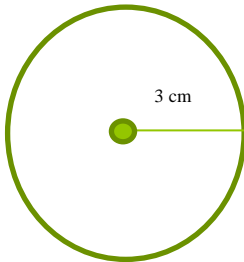
Part C: Shape & Space Strand

SS 7.2 Develop and apply formulas for determining the area of triangles, parallelograms, and circles.

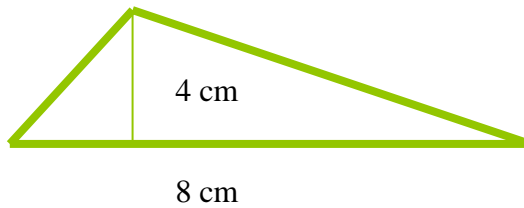
Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance determining the area of triangle, parallelogram, and circle.	Student is able to determine the area of triangle, parallelograms and circles using the formulas.	Student is able to solve real life problems involving triangles, parallelograms, and circles.	Student is able to explain the development of area for triangles, parallelograms, and circles.

1. Find the area of the following figures:

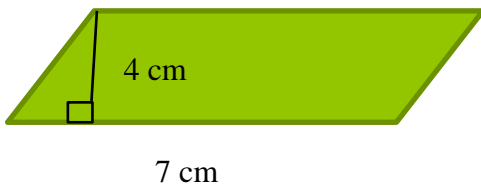
a)



b)



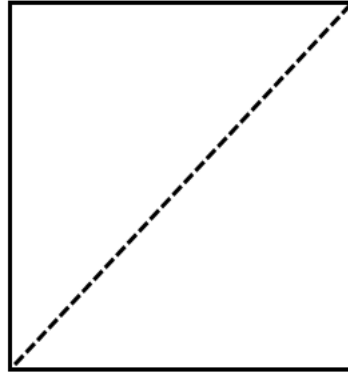
c)



2. Suppose you were to paint inside each shape above. Which shape would require the most paint? How did you find out?

Name: _____

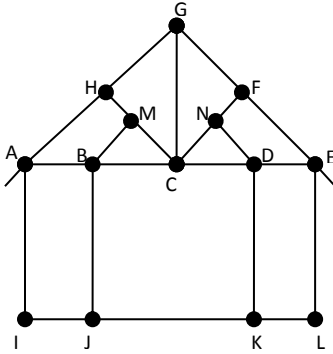
3. Given the square below, imagine a fold along the dotted line. Explain how folding the square on the dotted line can be used to discover the formula of a triangle.



Part C: Shape & Space Strand**SS7.3** Demonstrate understanding of 2-D relationships involving lines and angles.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance identifying perpendicular and parallel lines.	Student is able to draw perpendicular and parallel lines.	Student is able to construct (using compass and straight edge) perpendicular and angle bisectors.	Student is able to create a design and identify constructions present in the design.

1. Bob is building a house. A picture of the frame is as follows:



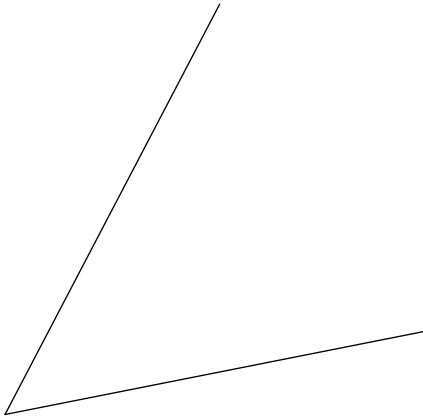
a) Identify a set of **parallel** lines.

b) Identify a set of **perpendicular** lines.

2. Use a straight edge and compass to draw a perpendicular bisector.

Name: _____

3. Given the following angle, use your compass and straight edge to cut the angle in half.



4. Construct a right  angle that has angles 90° , 45° , 45° . Identify constructions used.

Part C: Shape & Space Strand

SS7.4 Demonstrate understanding of the Cartesian plane and ordered pairs with integral coordinates.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance in order to plot a point in all 4 quadrants.	Student is able to identify the location of a point in all 4 quadrants.	Student is able to plot points on a Cartesian plane in all 4 quadrants.	Student is able to create a shape/design on a Cartesian plane.

1. Identify the points on the grid by their coordinates.

A = (__, __)

B = (__, __)

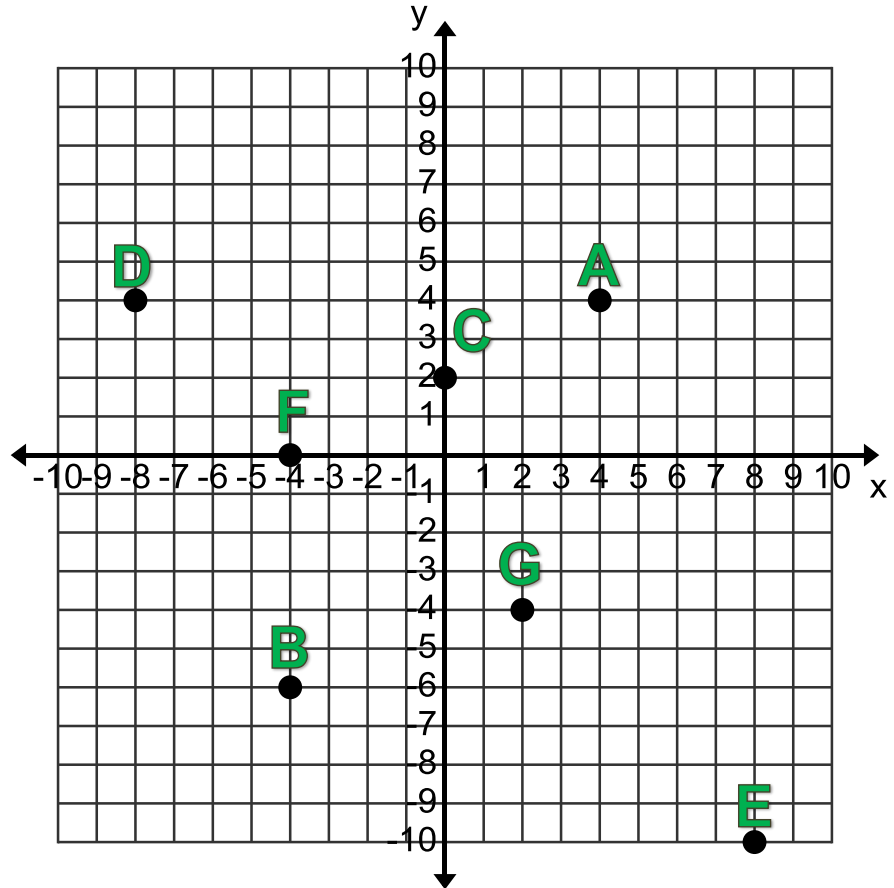
C = (__, __)

D = (__, __)

E = (__, __)

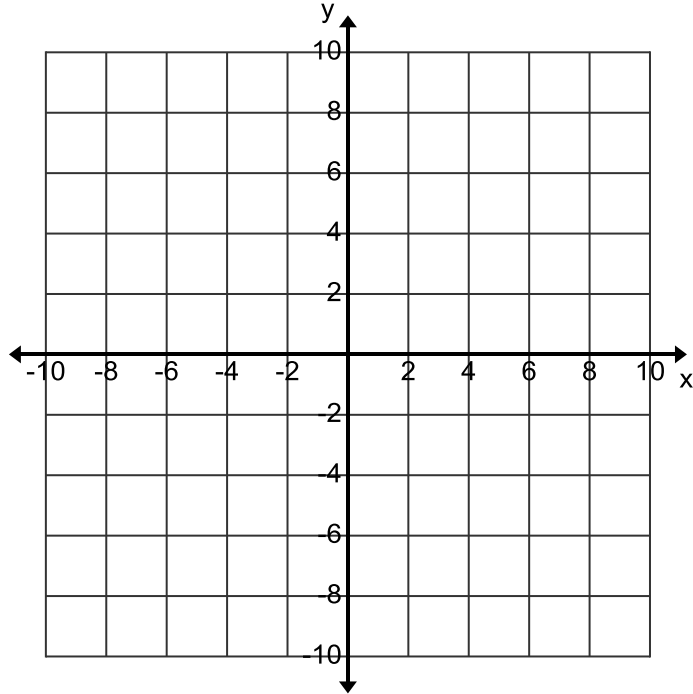
F = (__, __)

G = (__, __)



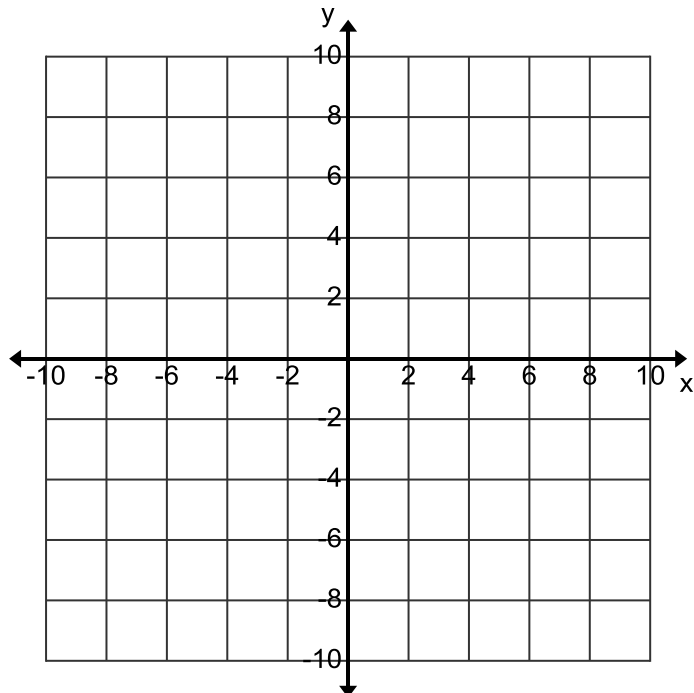
2. Plot each of the named points on the graph.

- (a) Point A at (4, 2)
- (b) Point B at (-5, 9)
- (c) Point C at (3, -8)
- (d) Point D at (0, 0)
- (e) Point E at (-4, 2)
- (f) Point F at (-6, -5)
- (g) Point G at (0, 7)
- (h) Point H at (8, 8)



3. Create a design using all four quadrants of the Cartesian plane using at least 8 ordered pairs. Identify the points on the grid by their coordinates.

- A = (____, ____)
- B = (____, ____)
- C = (____, ____)
- D = (____, ____)
- E = (____, ____)
- F = (____, ____)
- G = (____, ____)
- H = (____, ____)

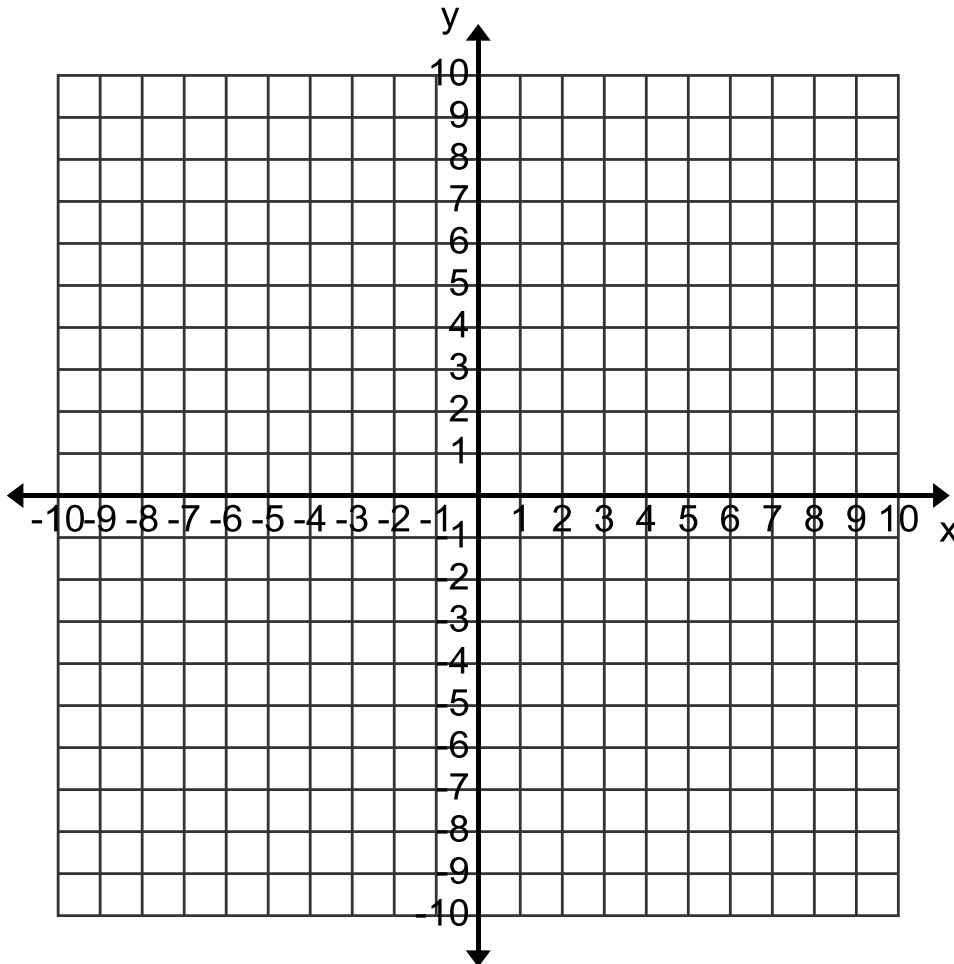


Part C: Shape & Space Strand

SS7.5 Expand and demonstrate an understanding of transformations (translations, rotations, and reflections) of 2-D shapes in all four quadrants of the Cartesian plane.


Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance in performing a transformation in the positive quadrant of a Cartesian plane.	Students can perform a single transformation of a 2D shape in a 4 quadrant Cartesian plane.	Students can perform a combination of transformations of 2D shapes in a 4 quadrant Cartesian plane.	Students can interpret a combination of successive transformations in a 4 quadrant Cartesian plane.



1. Use the grid to answer the questions below.
 - a) Plot the points on a coordinate grid. Join the points to draw the quadrilateral.
 - A (2, 1)
 - B (5, 1)
 - C (5, 3)
 - D (3, 3)
 - b) Translate the 4 units to the right.
 - c) Rotate your original picture about the origin 180° counter-clockwise.





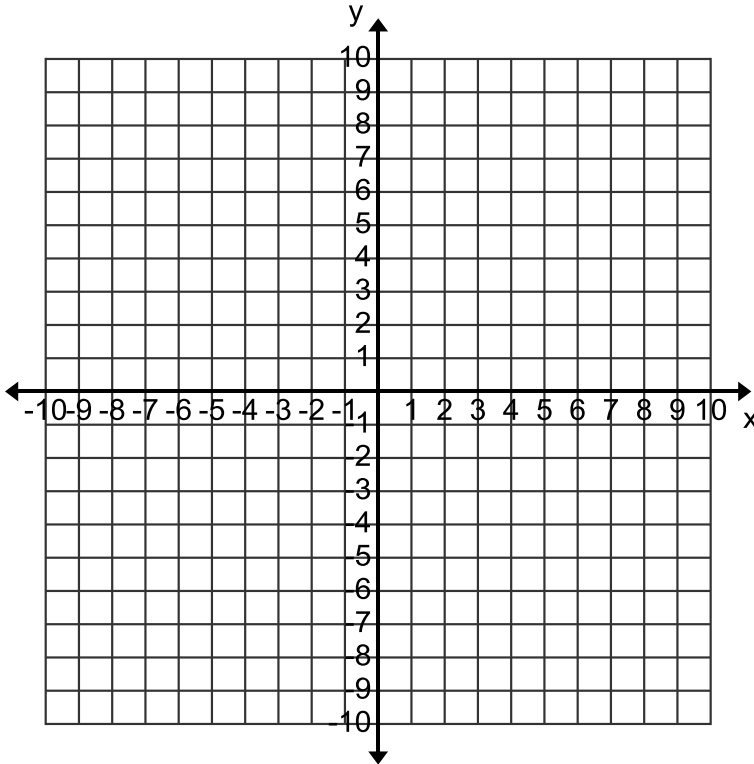
2. a) Plot these points on a coordinate grid.

C (6,-3), D(-4,3), E(6,3)

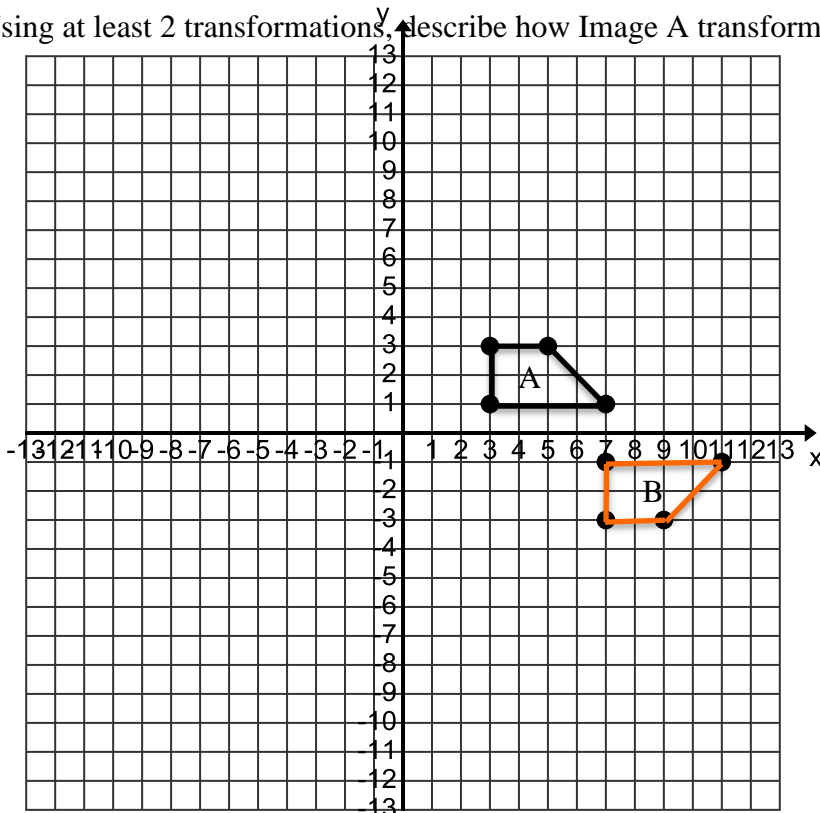
Joint the points to draw  CDE.

b) Translate  CDE 5 units left and 4 units up to image  C'D'E'.

c) Rotate  C'D'E' -90° about the origin to image  C''D''E''.



3. Using at least 2 transformations, describe how Image A transformed to Image B.



Part D: Statistics & Probability Strand**SP7.1** Demonstrate understanding of the measures of central tendency and range for sets of data.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance with mean, median and mode.	Student is able to calculate mean, median, mode, but is inconsistent.	Student is able to solve problems involving the measure and central tendency.	Student is able to justify when an outlier will be or not be used in reporting of the measure of central tendency.

1. This table shows the statistics for the goalies in a house league for hockey.

Goalie	Games Played
Foxx	7
Grey	10
White	3
Hawk	6
Payne	2
Reddy	7



- Find the median of the games played.
- Find the mean of the games played.
- Find the mode of the games played.
- Find the range of the points.
- Should the outlier be used when calculating the mean of the games played?



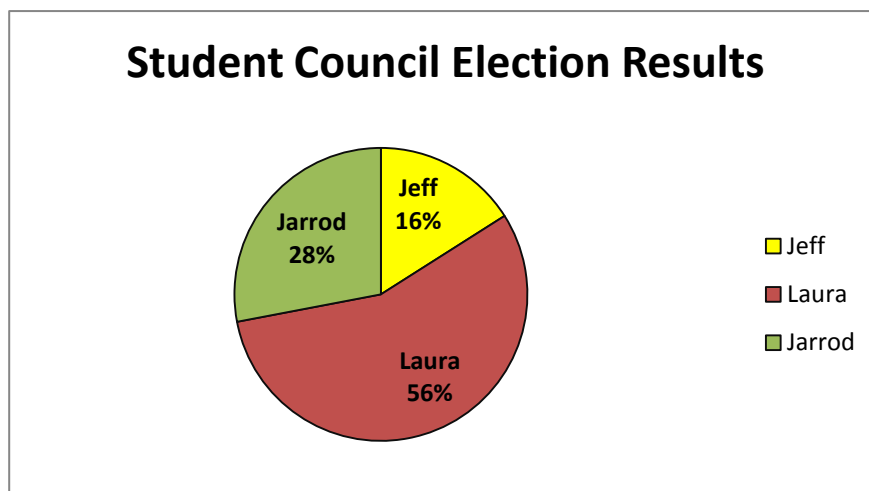
Name: _____

Part D: Statistics & Probability Strand

SP7.2 Demonstrate understanding of circle graphs.

Beginning (1)	Approaching (2)	Proficiency (3)	Mastery (4)
Student needs assistance to answer questions about circle graphs.	Student is able to interpret a circle graph to answer questions.	Student is able to create and label a circle graph to display a set of data.	Student can translate percent displayed in a circle graph into quantities to solve a problem

- The results of the student council election are displayed on a circle graph. 500 students voted. The student with the most votes was named president.



- Which student was named president? How do you know?

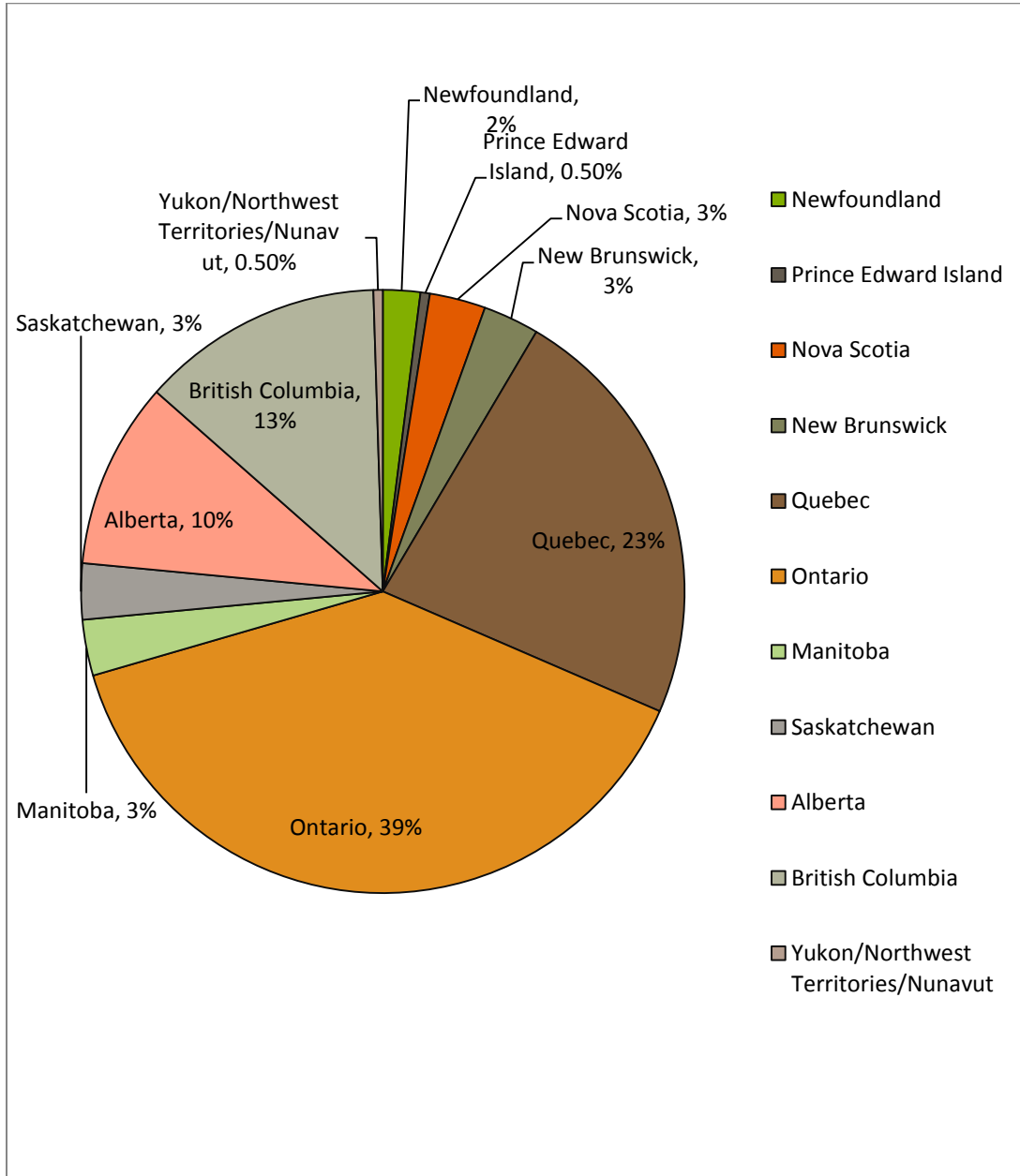
- The table below shows the amount of money raised for a Walk-a-thon by the following students in one day.

Student	Amount Raised
Sally	20
Cameron	15
Abigail	35
Ashton	5
Alex	25

Display the data in a circle graph provided.

Name: _____

3. Given that the population of Canada is approximately 33 000 000. How many people live in Manitoba, Saskatchewan, British Columbia, Alberta, and Ontario?



b) What is the probability of:

- i. spinning A?
- ii. picking a grey marble?
- iii. spinning A and picking a white marble?
- iv. spinning C and picking a pink marble?

3. The theoretical probability of tossing a coin and having the coin land heads up is $\frac{1}{2}$. Emma conducted an experiment. She tossed the coin 100 times and the experimental results were as follows: 62 tosses heads, 38 tosses tails. Explain how theoretical and experimental probabilities are related and why they may not be equal.



Name: _____

Percent Circle

