Name: _____

Unit 1: Patterns and Relations

1. How can you tell if 1245 is divisible by 2? by 5? by 10?

2. Write an algebraic expression for each statement. *Example: "two more than 4 times a number" is 4n +2*

a) A number increased by four   **b)** Three more than five times a number

c) Double a number and subtract six   **d)** A number divided by seven

Unit 2: Integers:

1. Add

   a) $(+5) + (-2)$ **b)** $(-7) + (+4)$

2. Subtract

   a) $(+6) - (+5)$ **b)** $(+2) - (-3)$

3. Puncak Jaya, New Guinea, is 5040 m above sea level. Lake Assal, Djibouti, is 156 m below sea level. What is the difference in elevations of these two locations? Draw a diagram.

Name: _____

Unit 7: Data Analysis

1. The counters in a bag are sorted by colour.

Colour	Number of Counters	Colour	Number of Counters
Red	9	Purple	15
Yellow	16	White	18
Orange	15	Pink	16
Green	8	Brown	15
Black	10		

    a) How many counters are in the bag? _____

    b) What is the mean number of counters? _____

    c) What is the mode? How do you know? _____

    d) What is the range of the data? _____

2. Here are the science test marks for Grade 7 students at Grosvenor School: 78, 56, 73, 69, 82, 30, 55, 47, 60, 21, 73, 49, 89, 93, 59, 76, 70, 88, 100, 73, 97, 50, 65, 77, 53, 62, 80, 91, 76, 83, 51, 62, 73, 84, 99, 68, 81, 85, 74, 96, 82, 69, 72, 97, 54, 48, 61

    a) Calculate the mean, median, and mode marks.

    b) Identify any outliers.

    c) Find the mean, median, and mode marks without the outliers.

    d) How is each average affected when the outliers are not included?

Name: _____

Unit 3: Fractions, Decimals and Percents

1. Write each decimal as a fraction in simplest form and each fraction as a decimal.

    a) $0.44 =$ _____   **b)** $2\frac{7}{11}=$ _____   **c)** $0.\overline{45}=$ _____   **d)** $\frac{13}{20}=$ _____   **e)** $0.094=$ _____
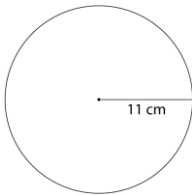
2. Use any method. Order these numbers from least to greatest.
    Show your work.

    $1\frac{7}{12}, \frac{11}{6}, 1.\overline{3}, 2$ _____
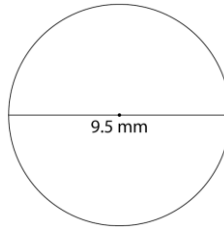
Unit 4: Circles and Area

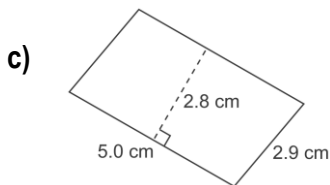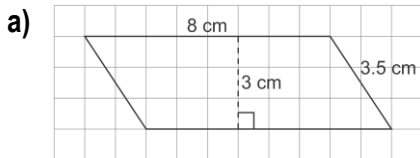1. For each circle, write the required measure.

    a) Write the diameter.   **b)** Write the radius.

    11 cm   9.5 mm

2. Find the circumference and area of each circle in question 1. **C = πd and A = πr²**   `where π ≈ 3.14

3.   Calculate the area of each parallelogram. (A_paralellogram = *bh*)
    a)   8 cm   **b)**
                         3 cm   3.5 cm   4 cm
                                                                          9 cm
                                                                     9.9 cm

    c)
           2.8 cm   **d)**   10.0 cm
       5.0 cm   2.9 cm   14.0 cm

                                                  10.6 cm

Name: _____

Unit 5: Operations with Fractions

1. Add or subtract.

   a) $\dfrac{1}{4} + \dfrac{5}{12}$ **b)** $\dfrac{3}{5} - \dfrac{1}{10}$

   c) $\dfrac{2}{3} + \dfrac{3}{5}$ **d)** $\dfrac{5}{9} - \dfrac{1}{4}$

2. Your classmate incorrectly tells you that $1\dfrac{1}{3} + 2\dfrac{1}{3} = 3\dfrac{2}{6}$.

   Explain where your classmate went wrong.
   Use two different methods to show your classmate the correct solution.

Unit 6: Equations

1. Solve the equation using a method of your choice. Verify the solution.

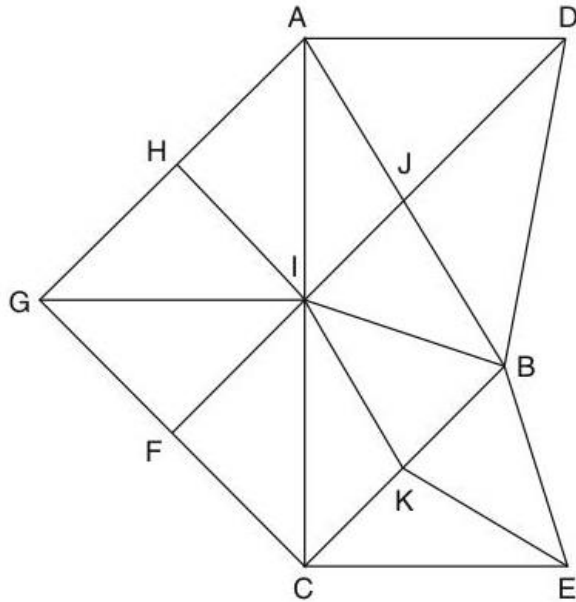   **a)** $x - 3 = 12$ **b)** $14 = x + 8$

   c) $7x = 63$ **d)** $6x + 3 = 21$

Name: _____

Unit 8: Geometry

1. Look at the diagram.

a) Find as many pairs of parallel line segments as you can.

How do you know they are parallel?

b) Find as many pairs of perpendicular line segments as you can.

How do you know they are perpendicular?

2. Look around your classroom.

a)   Find 3 examples of parallel lines. Sketch diagrams to illustrate each example.

b)   Find 3 examples of perpendicular lines. Sketch diagrams to illustrate each example.