Name: _____

Date: _____

School Name: _____

General Instructions:

Read the instructions below before answering the following questions.

1. This test contains 10 questions. Questions are taken from four strands:
   - ✓ Number,
   - ✓ Measurement,
   - ✓ Geometry
   - ✓ Statistics & Probability
   - ✓ Algebra

Space is provided for you to answer each question.

2. Questions may be anyone of the following item type: Table Grid, Single/multiple Selected Response, complete work/explanation.

3. All questions must be answered in the provided space and remember to explain your answer where it is required.

4. Read each question carefully. Then answer questions based on instructions given.

5. For each question, where options are given to choose from, indicate the answer(s) you have selected for each question by circling the corresponding letter from the given options.

Answer ALL the questions as instructed.

Read each statement and question carefully before attempting to answer the following question.

In a class of 10 students, some students were selected for the school athletics, some were selected for the school football sporting activities, some were selected for both and the rest were selected for neither.

Given U = {Paul, Ayesha, Derrick, Lorrie, Robin, Hanna, Shirley, Nathan, Chris, Dana}

Football = {Paul, Lorrie, Nathan, Derrick}

Athletics = {Robin, Derrick, Ayesha}

1. Draw a Venn diagram to represent these sets.

2. Mark, John, Sam and Nick are a part of the monthly Sagicor Cross Country run. The following table shows how long each runner took to complete the race last month.

Runner	Time
Mark	3 hours 15 minutes
John	2 hours 45 minutes
Sam	2 hours 50 minutes
Nick	2 hours 55 minutes

   a. Place the runners in order from first to fourth according to their positions.
   First Position: _____
   Second Position: _____
   Third Position: _____
   Fourth Position: _____

b. If the race started at 17:00 hours, at what time was the race won?

c. The same runners who participated in the cross country ran together again in another race this month. Everyone ran their original time except Mark who ran 25 minutes faster.

i. How would this affect the original ranking?

ii. How much faster than his original pace would he have needed to run in order to win the race?

3. A rectangular prism 3cm by 4cm by 5cm is standing on its smallest face.
   i. Make a sketch showing the three visible faces.

   ii. Use lines to divide your sketch into 1cm cubes.

   iii. How many 1cm cubes are in the shape?

4. You are the owner of a clothes store and want it to be the most popular store by keeper your customer happy with the clothes you sell.

   A. List four pieces of information you could collect to make sure that your customers are happy with what you have to sell.

B. How would you go about collecting this information?

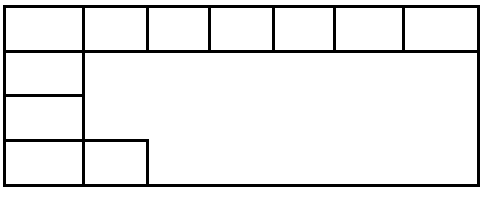
5. Match each of the following composite numbers on the left to its prime factors in exponential form on the right.

A. 28	i. 3^4
B. 81	ii. $2^2 \times 2^2$
C. 525	iii. $2^2 \times 7$
D. 100	iv. $3 \times 5^2 \times 7$

6. If the HFC of two numbers is eight, which of the following three choices could be these numbers.

A. 18 and 32
B. 32 and 40
C. 104 and 72
D. 16 and 56

7. Michelle was tiling the mat below. After a while she ran out of tiles.

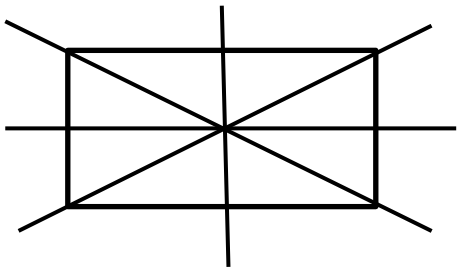


Key: ☐ = 1 Square Unit

A. How many more tiles would she need to complete her task?

B. If each unit square represents 2 square meters, what is the size of the mat in square cm?

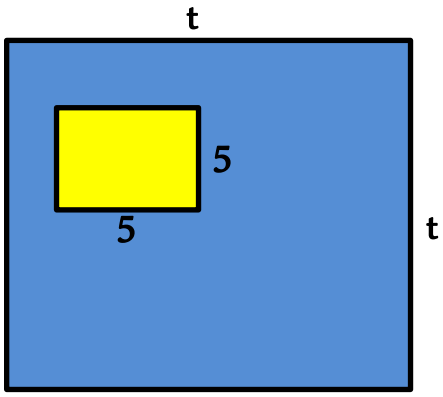
8. Andrea drew a rectangle, as shown below, and said her rectangle has four lines of symmetry because each line cuts the shape in half. Was she correct? Explain.



9. Substitute the variable(s) in each statement with a value that makes the statement true.

Statements	Values
3a = 33	a =
25 + b = t + 20 2t = 8	b = t =
5r = q + 7 2g = 8	r = g =
7p = 21	p =

10. The diagram below shows a square room of length t. A 5 m square section of the floor was removed.



A. Which expression below represents the shaded region?

a. $t^2 + 25$ c. $t^2 - 25$

b. $t^2 - 20$ d. $t^2 - 10$

B. Explain why you chose this answer.