

Rising Grade 7 Math

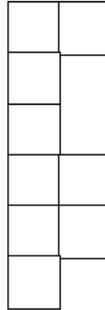
OPTIONAL Summer Enrichment Packet

You may choose to do as many or as few of these problems as you like. The goal of this packet is to provide an opportunity for you to reinforce and expand your mathematical reasoning. You are highly encouraged to work with others, including friends and family members.

If you have questions, I will be checking my work email about once a week from June 17th – August 16th. My email address is ghiltebrand@barrie.org.

Beginning August 19th, you should begin reaching out to the new math teacher, Ann Smith. Her email will be available on the school website.

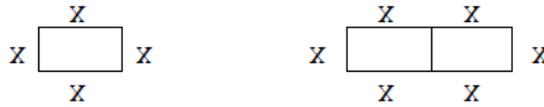
1. Nine square tiles are laid out on a table so that they make a solid pattern. Each tile must touch at least one other tile along an entire edge. One example is shown below.



- a. What are the possible perimeters of all the figures that can be formed?

- b. Which figure has the least perimeter?

2. In the school cafeteria, 4 people can sit together at 1 table. If 2 tables are placed together, 6 people can sit together.



- a. How many tables must be placed together in a row to seat: 10 people? 20 people?
- b. If the tables are placed together in a row, how many people can be seated using: 10 tables? 15 tables?
3. Twice the product of 6×5 is three times as great as this number. What is the number?

4. Consider each question below.

a. These numbers belong together in a group: 25, 40, 110, 55

These numbers do NOT belong together in this group: 33, 71, 4, 106

Which of these numbers belong in the group? 75, 205, 87, 43

What is the rule?

b. These numbers belong together in a group: 16, 9, 49, 64

These numbers do NOT belong together in this group: 30, 101, 19, 44

Which of these numbers belong in the group? 36, 80, 99, 121

What is the rule?

5. Jill's mother limited her Nintendo playing to 10 hours per week. She played on only four days, a different amount of time each day. On Saturday, she played twice as much as on Wednesday. She didn't play on Monday, Tuesday or Thursday. On Friday, she played the least of the days she played. If the times were all different and there were not any partial hours, how many hours did she play on each day?

6. A clock loses 2 minutes every 8 hours. Alicia's mom plans to set the alarm at 11 p.m. on Sunday night to get Alicia up each morning. Alicia has to get up no later than 7 a.m. What time should her mom set the alarm to be sure that Alicia isn't late to school any day, Monday through Friday?

7. The math symbols in these equations are missing. Make each equation true by adding two or more symbols (+, -, x, ÷, or =) to each. For example,

Problem: 4 2 2

Solutions: $4 = 2 + 2$ OR $4 - 2 = 2$ OR $4 \div 2 = 2$

a. 8 8 4 4

b. 18 9 2 36

c. 2 14 20 4 1

8. For each question below, **give an example to support your answer:**

a. Is the least common multiple of an even number and an odd number, even or odd?

b. If one number is a divisor of a second number, what is the least common multiple?

c. If two numbers do not have any common divisor, what is the least common multiple?

9. Cinemark Theater has three categories for ticket prices. Adult tickets sell for \$6.50 after 3 p.m. or \$3.25 for a matinee (before 3 p.m.). Under 12 tickets sell for \$3 at any time. The theater has a maximum capacity of 408 seats.

What is the greatest amount that could be collected at:

a. an 8pm showing?

b. a 1pm showing?

Explain how much you think would be collected at a matinee showing of a children's movie?

10. Optional summer activity – Go to a museum that relates to math or science. Write a paragraph about something you found interesting at the museum.