

Important Concepts . . .

# Preview Review



**Mathematics    Grade 6    TEACHER KEY**

**W2 - Quiz**

## Important Concepts of Grade 6 Mathematics

W1 - Lesson 1 .....	Basic Facts, Basic Operations, and Integers
W1 - Lesson 2 .....	Place Value, Whole Numbers, Decimals, and Common Fractions
W1 - Lesson 3 .....	Improper Fractions and Mixed Numbers
W1 - Lesson 4 .....	Ratios and Percents
W1 - Lesson 5 .....	Number Operations with Decimals
W1 - Quiz	
W2 - Lesson 1 .....	Factors, Multiples, and Prime Factorizations
W2 - Lesson 2 .....	Metric Measurement
W2 - Lesson 3 .....	Perimeter and Area
W2 - Lesson 4 .....	Surface Area and Volume
W2 - Lesson 5 .....	Working with Angles and Drawing Objects and Shapes
W2 - Quiz	
W3 - Lesson 1 .....	Transformations
W3 - Lesson 2 .....	Bar Graphs, Line Graphs, and Circle Graphs
W3 - Lesson 3 .....	Collecting and Analyzing Data
W3 - Lesson 4 .....	Number Patterns, Magic Squares, and Problem Solving
W3 - Lesson 5 .....	Probability and Outcomes
W3 - Quiz	

**Materials Required: A textbook is not needed. This is a stand-alone course.**

Mathematics Grade 6

Version 5

Preview/Review W2 - Quiz TEACHER KEY

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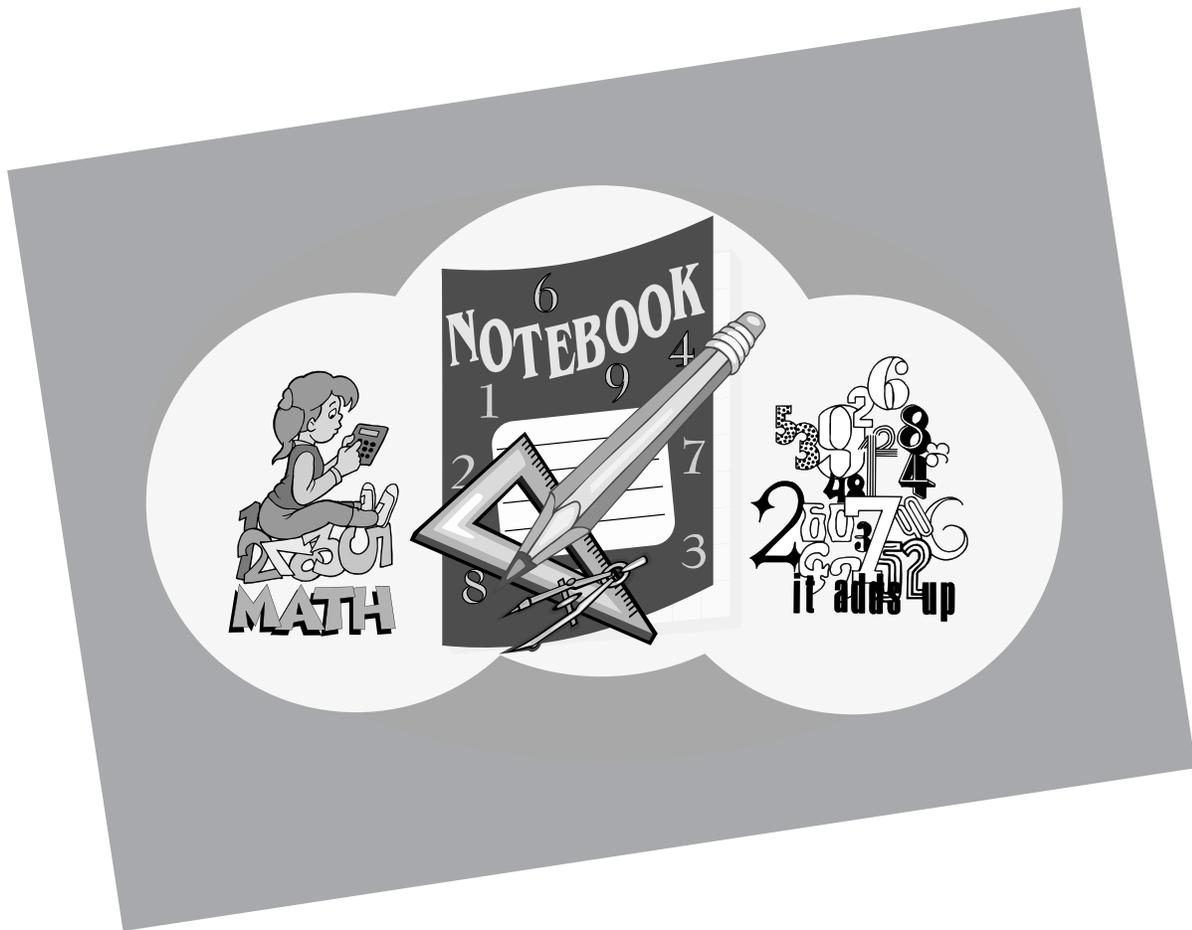
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# Preview/Review Concepts for Grade Six Mathematics

***TEACHER KEY***



***W2 - Quiz***



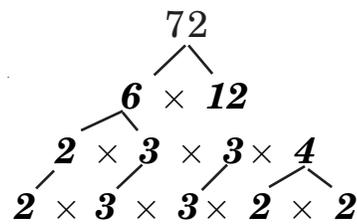
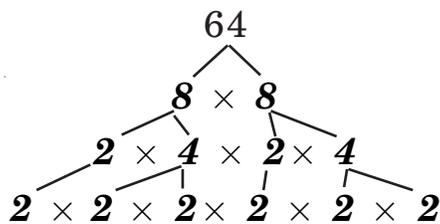
## W2 - Quiz

Score:  /50

1. Label the following numbers as **prime** or **composite**.

- a. 17 *prime*      b. 69 *composite*      c. 237 *composite*

2. Use the factor tree method to show the prime factors for the following numbers.



3. What is the greatest common factor (GCF) for the group of numbers?  
14, 28, 42, and 98.

$$14 = 1, \underline{14}, 2, 7$$

$$28 = 1, 28, 2, \underline{14}, 4, 7$$

$$42 = 1, 42, 2, 28, 3, \underline{14}, 6, 7$$

$$98 = 1, 98, 2, 49, 3, 7, \underline{14}$$

$$\mathbf{GCF = 14}$$

4. What is the Least Common Multiple (LCM) for the group of numbers: 4, 6, 8, and 12?

$$4 = 4, 8, 12, 16, 20, \underline{24}, 28$$

$$6 = 6, 12, 18, 20, \underline{24}, 30$$

$$8 = 8, 16, \underline{24}, 32, 40$$

$$12 = 12, \underline{24}, 36, 48$$

$$LCM = 24$$

5. Next to each measurement on the right, place the letter that represents the most appropriate unit of measure. Use each unit of measure only once.

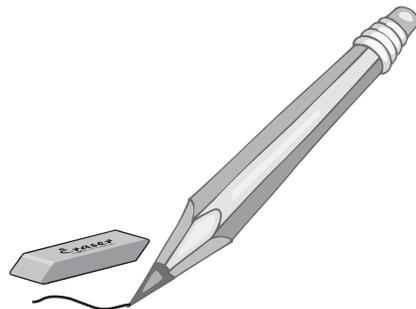
a. kilograms	<u>    E    </u>	the length of a chocolate bar
b. litres	<u>    D    </u>	the mass of a truck
c. decametres	<u>    B    </u>	the volume of a milk carton
d. tonnes	<u>    A    </u>	the weight of a person
e. centimetres	<u>    J    </u>	the amount of Vitamin C in broccoli
f. millilitres	<u>    I or C    </u>	the length of a wall in your living room
g. grams	<u>    H    </u>	the circumference of Earth
h. kilometres	<u>    G    </u>	the mass of a bag of marshmallows
i. metres	<u>    F    </u>	the volume of water in a drinking glass
j. milligrams	<u>    C or I    </u>	the length of a house
k. hectograms		
l. decigrams		

6. Make each of the following statements true by placing the correct sign (= or < or >) in the blanks below.

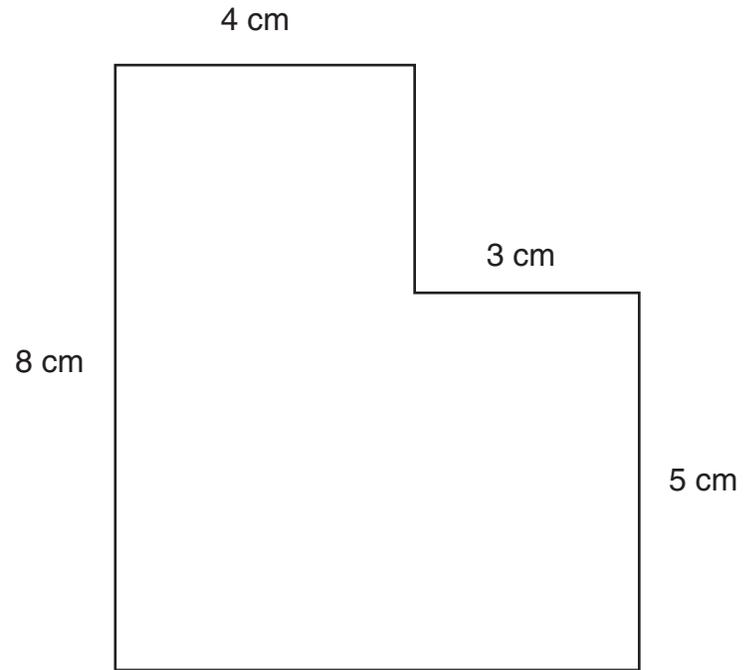
- a. 2 kg > 242 g
- b. 18 L > 1 800 mL
- c. 45 t < 450 000 kg
- d. 280 mL > 0.25 L
- e. 345 cm > 3 m
- f. 2 456 g > 2.2 kg
- g. 2 km > 300 m

7. Convert the following measurements.

- a. 34 g = 34 000 mg
- b. 85 cm = 0.85 m
- c. 2 t = 2 000 kg
- d. 8 km = 800 000 cm
- e. 2.55 L = 2 550 mL
- f. 11 cm = 110 mm
- g. 1 980 mg = 1.98 g



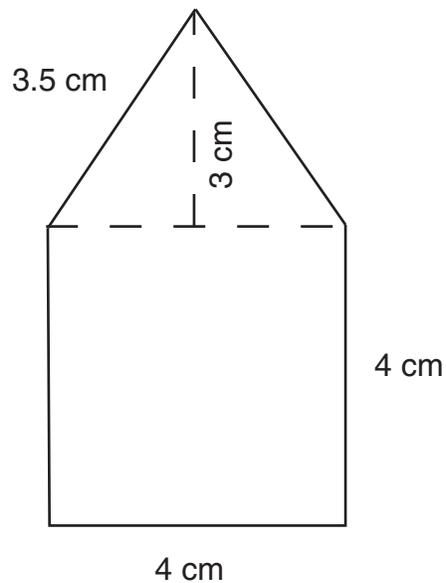
8. What is the area and perimeter of the following figure?



Area = 47 cm<sup>2</sup>

Perimeter = 30 cm

9. What is the area and perimeter of the following polygon?



Area = 24 cm<sup>2</sup>

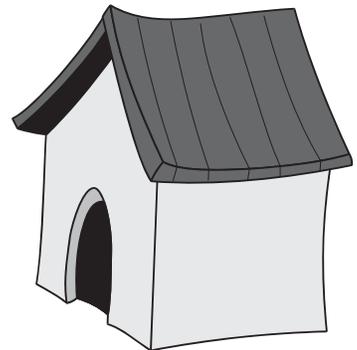
Perimeter = 19 cm

10. Daphne and her brother built a special doghouse for her French poodle. The shape of the doghouse was a rectangular prism. The dimensions of the doghouse were 50 cm by 45 cm by 35 cm. On the front of the doghouse (50 cm by 45 cm) was an ornate silver metal grill. This decorative door cost \$111.95. The floor of the doghouse was 50 cm by 35 cm.
- a. Daphne and her brother used plywood to build the dog house. A half sheet of plywood was big enough to do this project. The plywood cost \$34.50. Calculate the area (in square centimetres) of plywood needed to build the doghouse. (Remember: Daphne and her brother needed plywood for only five sides because the front of the doghouse was covered with the silver grill.)

$$\begin{array}{ll}
 \text{Roof : } 50 \text{ cm} \times 35 \text{ cm} & = 1750 \text{ cm}^2 \\
 \text{Floor : } 50 \text{ cm} \times 35 \text{ cm} & = 1750 \text{ cm}^2 \\
 \text{Right Side : } 45 \text{ cm} \times 35 \text{ cm} & = 1575 \text{ cm}^2 \\
 \text{Left Side : } 45 \text{ cm} \times 35 \text{ cm} & = 1575 \text{ cm}^2 \\
 \text{Back : } 50 \text{ cm} \times 45 \text{ cm} & = 2250 \text{ cm}^2 \\
 \text{Total Surface Area} & = 8900 \text{ cm}^2
 \end{array}$$

- b. Daphne lined the floor of the doghouse with woolen fleece. Calculate the area of fleece needed to cover the floor.

$$\text{Area : } 50 \text{ cm} \times 35 \text{ cm} = 1750 \text{ cm}^2$$



- c. If the fleece cost one cent per  $\text{cm}^2$ , what did Daphne pay to cover the floor of the doghouse with woolen fleece?

$$1750 \text{ cm}^2 \times \$0.01 = \$17.50$$

- d. Daphne and her brother painted the plywood black and white. The paint cost \$15.48. Additional building supplies cost \$10.00. Daphne bought her poodle three toys that cost \$5.99, \$11.49, and \$16.75. What was the total cost of building the doghouse, lining the floor, and buying the toys?



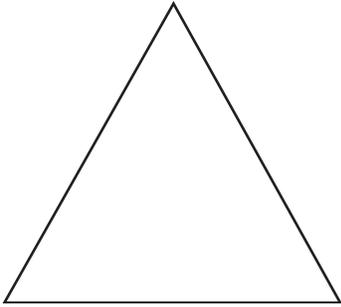
$$\begin{array}{r}
 \$15.48 \\
 10.00 \\
 5.99 \\
 11.49 \\
 16.79 \\
 34.50 \\
 17.50 \\
 + 111.95 \\
 \hline
 \$223.70
 \end{array}$$

**The total cost is \$223.70**

- e. When Daphne and her family moved to a new house, Daphne set the doghouse on end and filled it with her poodle’s food. What volume of dog food was needed to fill the upright doghouse?

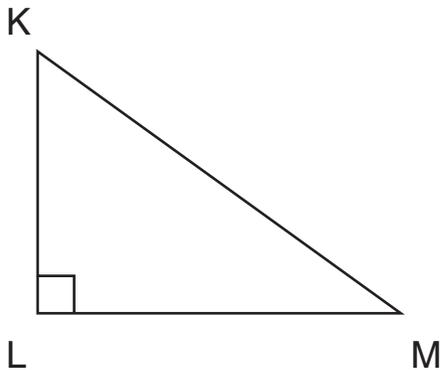
$$\begin{aligned}
 V &= l \times w \times h \\
 &= 50 \text{ cm} \times 45 \text{ cm} \times 35 \text{ cm} \\
 &= 78\,750 \text{ cm}^3
 \end{aligned}$$

11. This triangle is an equilateral triangle. What is the measurement of each of the three angles? You can calculate this without a protractor.



*Each corner angle measures  $60^\circ$*

12. What is the measurement of angle **K** if angle M is  $32^\circ$ ? You can calculate this without a protractor.



*$K = 58^\circ$*

Place the correct letter for the **BEST** answer in the blank before each question.

- C**   13. The sum of all four angles in a quadrilateral is
- a.  $90^\circ$
  - b.  $180^\circ$
  - c.  $360^\circ$
  - d.  $540^\circ$
- A**   14. A triangle with two sides that are the same length is called
- a. an isosceles triangle
  - b. a scalene triangle
  - c. an acute triangle
  - d. an obtuse triangle
- A**   15. A square can also be categorized as a rectangle.
- a. true
  - b. false



