

# Cumulative Review

## LESSON ORGANIZER

- Student Materials**
- place-value charts
  - protractors
  - tracing paper
  - 1-cm grid paper (PM 23)
  - Miras

## Units 1-8 Cumulative Review

1. Mrs. Terrault wants the students in her Grade 6 class to read each night. She said they should start at 5 min and add 3 min each night until they reach 50 min.
  - a) Make a table to show the time spent reading for each of the first 4 nights.
  - b) Write a pattern rule that relates the night to the time spent reading.
  - c) Write an expression to represent the pattern.
  - d) On which night will the students read for 50 min? **Night 16**
2. In the 2006-2007 season, the Western Hockey League had a total attendance of 3 519 007. Write this number in a place-value chart, then in expanded form and in word form.
3. Multiply or divide. Which strategies did you use?
  - a)  $2.737 \times 51.3$  b)  $0.463 \times 31.389$  c)  $14.025 \times 4.561$
  - d)  $16.488 \div 6$  e)  $2.748$  f)  $18.37 \div 356.12$  g)  $0.133 \div 70.019$
4. Sidney and his friends save money to go skiing at Grouse Mountain. A daily lift ticket costs \$37.00. Sidney saves \$5.45 each week for 7 weeks. Does Sidney have enough money to buy a lift ticket? How do you know? **Yes**
  - a) Use a ruler and a protractor. Draw a 35° angle. Which type of angle did you draw? **Acute angle**
  - b) What is the measure of the outside angle in part a? How do you know? **145°**
  - c) How would you classify this angle? **Reflex angle**
 Use tracing paper to copy the angle in part a. Rotate the angle  $\frac{1}{4}$  turn counterclockwise about its vertex. Measure the angle. What do you notice?

328

Cumulative Review Units 1-8 329

5. Find the measure of each unknown angle without measuring.
  - a) **a = 65°**
  - b) **b = 83°**
  - c) **c = 115°**
  - d) **d = 65°**
6. Write each mixed number as an improper fraction.
  - a)  $2\frac{4}{7}$  b)  $4\frac{2}{3}$  c)  $3\frac{3}{7}$  d)  $1\frac{1}{3}$
7. Write each ratio in as many ways as you can.
  - a) snowshoes to snowboards
  - b) snowboards to snowshoes
  - c) snowboards to snowshoes and snowboards
  - d) snowshoes to snowshoes and snowboards
8. Write 2 equivalent ratios for each ratio.
  - a) 5:3 b) 1:6 c) 4:7 d) 1:5
9. Use a ruler and plain paper to draw 6 different triangles. Measure each angle.
  - a) Classify each triangle as acute, right, or obtuse. Explain how you know.
  - b) Is any triangle isosceles or equilateral? How do you know?
10. Bethany sent her pen pal in Baker Lake, Nunavut, a stuffed animal. She packed the stuffed animal into a box that measured 22 cm by 12 cm by 15 cm. What was the volume of the box? **3960 cm<sup>3</sup>**

## Sample Solutions

1. a)

Night	Time (min)
1	5
2	8
3	11
4	14

- b) Multiply the night number by 3, then add 2.  
 c) Let  $n$  represent the night number. Then, the time, in minutes, spent reading is:  $3n + 2$

2.

Millions		Thousands			Units			
H	T	O	H	T	O	H	T	O
0	0	3	5	1	9	0	0	7

- Expanded form:  
 $3\ 000\ 000 + 500\ 000 + 10\ 000 + 9000 + 7$   
 Word form:  
 Three million five hundred nineteen thousand seven  
 3. I multiplied as I would whole numbers, then used estimation to place the decimal point. I divided as I would whole numbers, then used estimation to place the decimal point.

4. Yes. I multiplied as whole numbers:  $545 \times 7 = 3815$ . I used decimal benchmarks to place the decimal point. Since 5.45 is close to 5, I multiplied:  $5 \times 7 = 35$ . I placed the decimal point in the product so the whole number part was a number close to 35; 38.15. Since \$38.15 is greater than \$37.00, Sidney has enough money to buy a lift ticket.

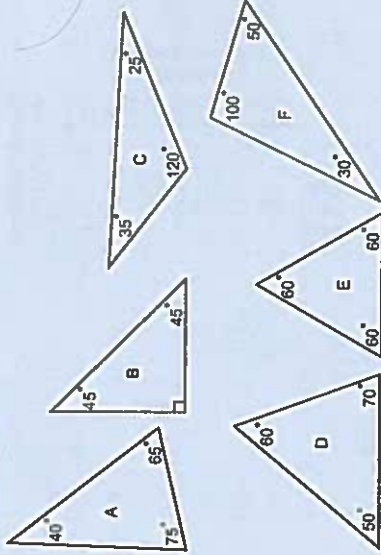
5. a)



- b) A complete turn is 360°. To find the measure of the outside angle, we subtract:  $360^\circ - 35^\circ = 325^\circ$   
 c) The measure of the angle did not change.

6. a) The sum of the angles in a triangle is 180°;  
 $180^\circ - 85^\circ - 55^\circ = 40^\circ$   
 b) I subtracted the known angle measure from 180°, then divided by 2 because the 2 unknown angles are equal.  
 $c + 115^\circ = 180^\circ$  because they make a straight angle. So,  $c = 65^\circ$ . The sum of the angles in a triangle is 180°, so  $65^\circ + 32^\circ + d = 180^\circ$ ;  $d = 83^\circ$   
 8. a) 6:2, or 6 to 2  
 b) 2:6, or 2 to 6  
 c) 2:8, or 2 to 8, or  $\frac{2}{8}$   
 d) 6:8, or 6 to 8, or  $\frac{6}{8}$   
 9. For example:  
 a) 10:6 and 15:9  
 b) 2:12 and 10:60  
 c) 8:14 and 20:35  
 d) 2:10 and 10:50

10. For example:



- a) Triangles A, D, and E are acute. Triangle B is a right triangle. Triangles C and F are obtuse.  
 b) Yes, Triangle B is isosceles; 2 angles have the same measure. Triangle E is equilateral; all angles have the same measure, 60°.

11. The formula for the volume of a rectangular prism is:

$$V = l \times w \times h$$

I substituted values for the variables:  
 $V = 22 \times 12 \times 15 = 3960$   
 The volume of the box is 3960 cm<sup>3</sup>.