FOR THE STUDENT

Comprehensive Assessment of Mathematics Strategies (CAMS Series) is a maths series that gives you practice with 12 maths strategies. In ***Comprehensive Assessment of Mathematics Strategies, Book 8,*** you will complete ten maths lessons. Each lesson has a maths theme and 12 questions about the theme. Each question provides you with practice of a particular maths strategy. After you have finished the first five lessons, you will complete a self-assessment. The self-assessment will help you determine how well you are doing and what goals you need to set to improve your maths skills. After you finish the last five lessons, you will complete another self-assessment. This self-assessment will help you determine how well you met your goals. ***Comprehensive Assessment of Mathematics Strategies, Book 8*** can help you become a better problem-solver. You will come to understand the important information you must look for as you prepare to solve any and all problems.

This ***Comprehensive Assessment of Mathematics Strategies*** book was prepared for students by Robert G. Forest.

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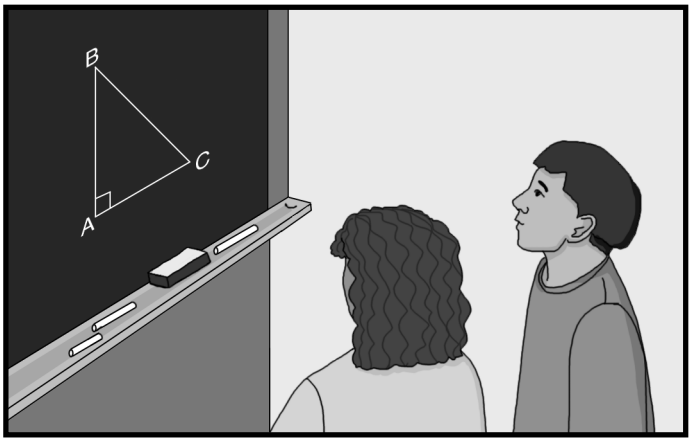
LESSON 1

Keanu enters the State Maths Championship

Keanu is preparing for the state maths championship to be held in May. He and another student will represent their school in the contest. Entrants must solve problems that involve complex maths concepts. Keanu's sister and parents quiz him daily with maths problems. Now do numbers 1 to 12.



1. Solve the problem below to find out how many days Keanu has to prepare for the maths challenge.

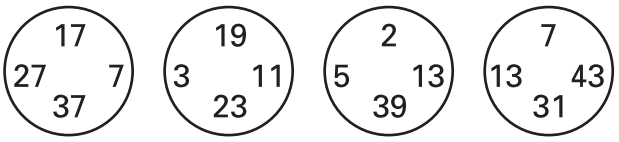
$$\sqrt{121} - \sqrt{16} =$$

Ⓐ 6 days
Ⓑ 7 days
Ⓒ 8 days
Ⓓ 9 days

2. The winning team will receive a cash award equal to the best estimate of 51% of $19,598. Which of these is the best estimate?

Ⓐ $9,000
Ⓑ $10,500
Ⓒ $9,500
Ⓓ $10,000

3. Keanu must determine which two circles contain only prime numbers. Then he must add the numbers to obtain a total equal to the number of students entered in the contest. How many students are entered?



Ⓐ 150 students
Ⓑ 144 students
Ⓒ 115 students
Ⓓ 153 students

4. Keanu substituted the values of a and b to determine which equation is correct. Which equation is correct?

$a = 18 \quad b = 12$

Ⓐ $31 - b = a$
Ⓑ $a - b = 6$
Ⓒ $22 - a = b$
Ⓓ $b - a = 5$

5. Keanu works at a supermarket 4 afternoons after school and all day Saturday. He rides his bike to school and to work. The ride from school to the supermarket is 5.3 kilometres. The ride from home to the supermarket is 6.2 kilometres. How many kilometres does Keanu travel to and from work in the 5 days?

Ⓐ 33.6 kilometres
Ⓑ 57.5 kilometres
Ⓒ 44.2 kilometres
Ⓓ 58.4 kilometres

6. During one of the early practice sessions for the maths challenge, Keanu correctly solved 45 maths problems out of 60. What percentage of the problems did he miss?

Ⓐ 75%
Ⓑ 80%
Ⓒ 25%
Ⓓ 30%

7. During practice yesterday morning, Keanu solved 60 maths problems in 96 minutes. If Keanu started solving problems at the time shown on the clock, when did he finish the work?

Ⓐ 10.11 a.m.
Ⓑ 9.52 a.m.
Ⓒ 10.41 a.m.
Ⓓ 11.30 a.m.

8. You will need information from problem 5 to solve this problem.

How many metres did Keanu travel to and from work in the 5 days?

1 kilometre = 1000 metres

Ⓐ 58,400 metres
Ⓑ 5840 metres
Ⓒ 584 metres
Ⓓ 584,000 metres

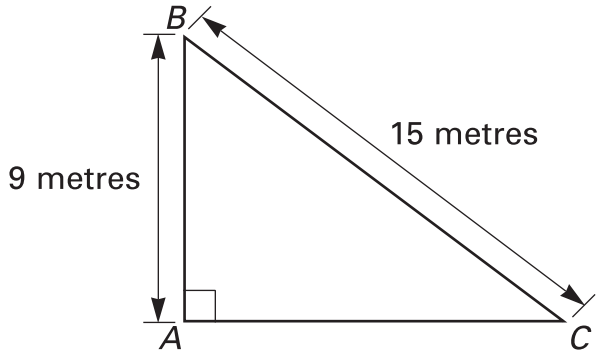
9. Study Keanu's incomplete table. If the input value (n) is 5, what is the output value represented by $f(n)$?

function rule: $4n - 3$

n	$f(n)$
1	1
2	5
3	
4	
5	

Ⓐ 16
Ⓑ 17
Ⓒ 14
Ⓓ 15

10. Keanu's teacher showed him the right-angled triangle BAC. What is the measurement of $\overline{AC}$?



Ⓐ 18 metres
Ⓑ 16 metres
Ⓒ 10 metres
Ⓓ 12 metres

11. You will need information from problem 7 to solve this problem.

Problem 7 shows the number of minutes Keanu took to solve 60 maths problems. What was the average amount of time that he took to solve one problem?

Ⓐ 1.2 minutes
Ⓑ 3.6 minutes
Ⓒ 1.6 minutes
Ⓓ 4.8 minutes

12. Keanu blocked off a 3×3 square on a blank calendar. He added the 9 dates. He also did the same with 9 other dates on the same calendar and got the same results. What relationship did he find between the sum of the dates and the middle date?

July

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
			6	7	8	
			13	14	15	
			20	21	22	

Ⓐ The middle date is $\frac{1}{3}$ of the sum.
Ⓑ The middle date is the square root of the sum.
Ⓒ The sum is 7 times the middle date.
Ⓓ The sum is 9 times the middle date.

LESSON 2

Angela makes the grade

Angela excels at maths and is the other student selected to represent Westridge Secondary College in the state maths championship. She too has been studying hard for the competition, working overtime to solve problems like those she might have to solve at the championship. Now do numbers 1 to 12.

1. Solve the problem below, and you will find the number of practice problems that Angela solved on Saturday.

$(12 - 8)^3 =$

Ⓐ 16 problems
Ⓑ 96 problems
Ⓒ 48 problems
Ⓓ 64 problems

2. Angela must estimate the solution to 1.95×7.8. Which of these is the product to the nearest whole number?

Ⓐ 16
Ⓑ 14
Ⓒ 18
Ⓓ 12

3. Angela measured 3 boards. The first board was $2\frac{1}{2}$ metres long; the second board was $\frac{1}{2}$ the size of the first; and the third board was $1\frac{1}{3}$ times the size of the second. What is the total number of metres that Angela measured?

Ⓐ $2\frac{1}{2}$ metres
Ⓑ $6\frac{1}{4}$ metres
Ⓒ $5\frac{3}{8}$ metres
Ⓓ $4\frac{2}{3}$ metres

4. Angela's father bought 1.800 kilograms of minced meat for a barbecue. He cooked $1\frac{1}{4}$ kilograms of the meat. Angela worked out how much meat remained. What was the correct amount?

Ⓐ 550 grams
Ⓑ 650 grams
Ⓒ 500 grams
Ⓓ 350 grams