# NEW ENGLAND
# COMMON ASSESSMENT PROGRAM

## Student Practice Test Booklet

## Grade 7

## Mathematics

Student Name: _____

School Name: _____

# Mathematics—Session 1 (Non-Calculator)

**Answer questions 1 through 4 on page 2.**

**1** Kenji drew a figure. His figure

- is a parallelogram, and
- has four right angles.

Which one of the following **must** Kenji's figure be?

A. a rectangle
B. a rhombus
C. a square
D. a pentagon

**2** Rachel started a new business. The table below shows the profit or loss each month for six months. Rachel uses positive numbers to show a profit and negative numbers to show a loss.

| Month | Profit or Loss ($) |
|---|---|
| January | −1980 |
| February | −280 |
| March | 3870 |
| April | −770 |
| May | −910 |
| June | 1030 |

How much profit or loss did Rachel have after being in business for six months?

A. loss of $8840
B. loss of $960
C. profit of $960
D. profit of $8840

**3** A solid figure has

- 3 rectangular faces, and
- 2 triangular bases.

What is the name of the solid figure?

A. triangular prism
B. triangular pyramid
C. rectangular prism
D. rectangular pyramid

**4** Tony has $n$ nickels and $d$ dimes. Which expression represents the total value, in cents, of Tony's coins?

A. $n + d$
B. $5n + 10$
C. $n + d + 10$
D. $5n + 10d$

GO ON

**Answer question 5 on page 2.**

**5** Look at this sentence.
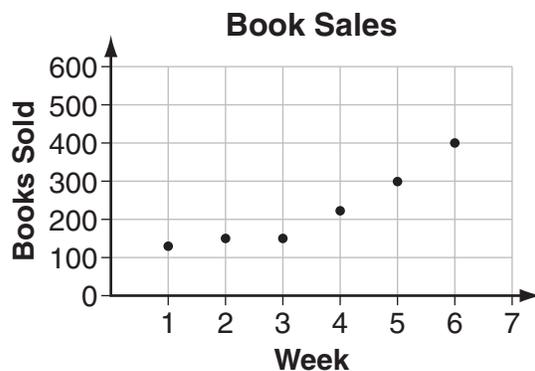
$$\boxed{\phantom{x}} + 5 < 5$$

Describe **all** of the numbers that make the sentence true.

**Answer question 6 on page 2.**

**6** a. A pyramid has a hexagon for its base. How many edges does the pyramid have?

   b. A pyramid has a base that is a polygon with $n$ sides. Use $n$ to write an expression that represents the number of edges the pyramid has.

**Answer question 7 on page 2.**

**7** The graph below shows sales at a bookstore each week.

**Book Sales**



a. What was the first week when more than 200 books were sold?

b. Predict how many books will likely be sold in Week 7.
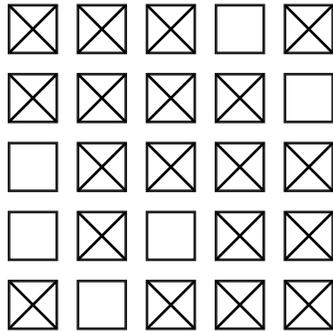
**DO NOT GO ON.** **STOP**

# Mathematics—Session 2 (Calculator)

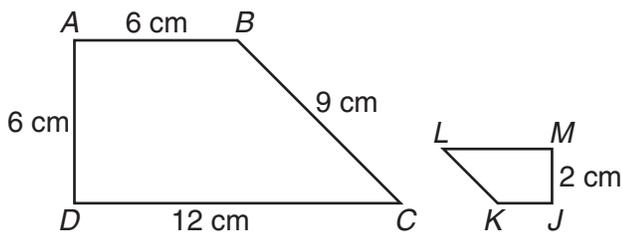**Answer questions 8 through 11 on page 3.**

**8** Ms. Tinsdale marked an "X" on her seating chart for each student buying lunch.

**Seating Chart**



What percent of the students are buying lunch?

A. 19%

B. 24%

C. 76%

D. 94%

**9** Look at these quadrilaterals (not drawn to scale).



Quadrilateral *ABCD* ~ quadrilateral *JKLM*.
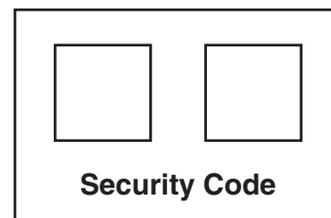What is the length of $\overline{LM}$ ?

A. 3 cm

B. 4 cm

C. 5 cm

D. 8 cm

**10** Look at this table.

**Health Club Family Rates**

| Members in Family | Monthly Cost |
|---|---|
| 1 | $ 58 |
| 2 | $ 88 |
| 3 | $118 |
| 4 | $148 |

Which expression correctly states how the monthly cost is related to the number of members in a family?

A. $30 per person

B. $58 per person

C. $28 plus $30 per person

D. $58 plus $30 per person

**11** A company's security code is made by assigning one letter of the alphabet to each position shown below. Letters may be repeated.



**Security Code**

How many different codes can the company make?

A. 52

B. 100

C. 325

D. 676

**Answer question 12 on page 3.**

**12** Look at this chart.

| Term | Model | Number of Boxes |
|---|---|---|
| 1 |  | 3 |
| 2 |  | 7 |
| 3 |  | 11 |
| 4 |  | 15 |
| . . . $n$ | . . . ? | . . . ? |

Use words or symbols to describe how to find the **number** of boxes in Term $n$.

⓭ Copy the tables into your Student Answer Booklet.

a. Complete the tables.

Table 1

| $x$ | $2^x$ |
| --- | --- |
| 1 | 2 |
| 2 | |
| 3 | 8 |
| 4 | |
| 5 | |
| 6 | |

Table 2

| $y$ | $4^y$ |
| --- | --- |
| 1 | 4 |
| 2 | |
| 3 | 64 |
| 4 | |
| 5 | |
| 6 | |

b. What value of $y$ makes $2^8 = 4^y$ true?

c. If $2^x = 4^y$, what **must** be true about the values of $x$ and $y$?

**STOP**

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