# 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.

$\square + 5 < 5$

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

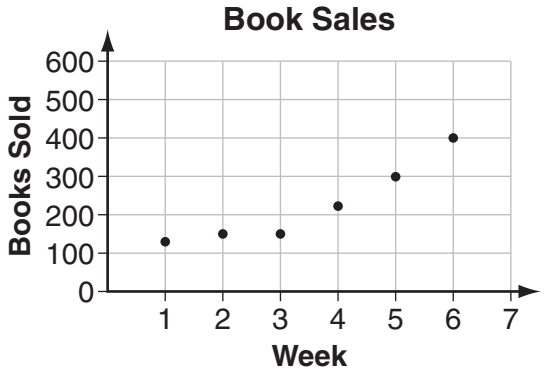
**Answer question 6 on page 2.**

**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.




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

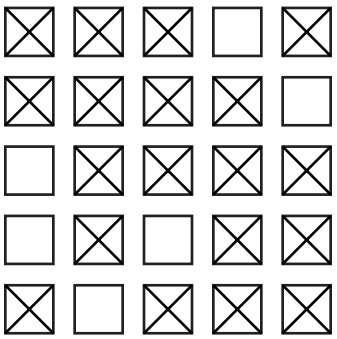
b. Predict how many books will likely be sold in Week 7.

DO NOT GO ON. STOP

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

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

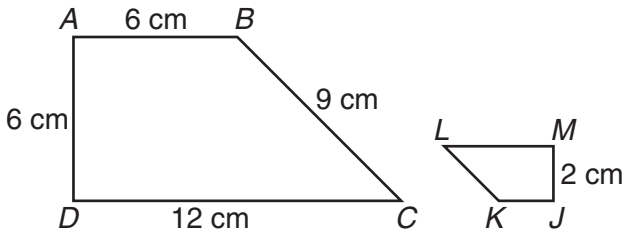
**Seating Chart**



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.

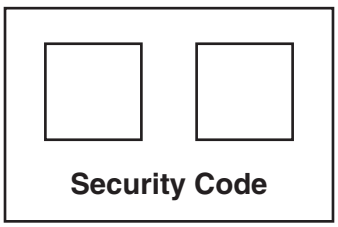
**Health Club Family Rates**

| 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.




How many different codes can the company make?

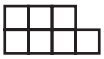
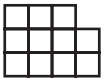
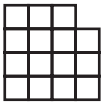
A. 52
B. 100
C. 325
D. 676



GO ON

**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*.



GO ON

**Answer question 13 on page 3.**

**13** 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 $y$?