New England Common Assessment Program

Released Items
2012

Grade 6
Mathematics
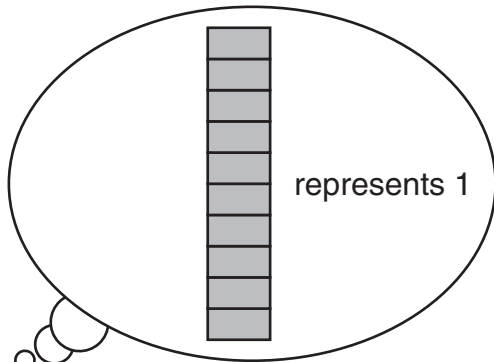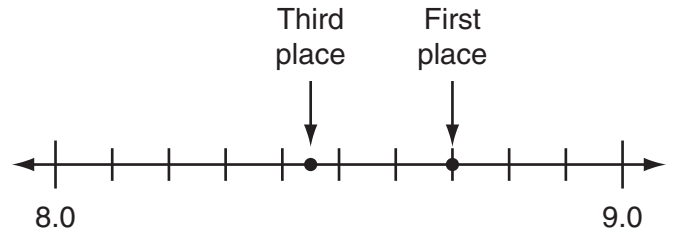
Mathematics

1 Maggie shaded part of this rectangle gray to represent a decimal.

represents 1

What decimal did Maggie represent?

A. 0.025
B. 0.25
C. 2.5
D. 25.0

2 This number line shows the scores the first-place winner and the third-place winner earned in a gymnastics event.

Third place   First place

8.0   9.0

Which score could the **second-place** winner have earned in the event?

A. 8.40
B. 8.75
C. 8.06
D. 8.65

3 One box of spaghetti serves 8 people. What is the **least** number of boxes needed to serve 90 people?

A. 10
B. 11
C. 12
D. 13

1

4 Hillary listed all the whole number factors of 18. Celeste listed all the whole number factors of 24. What factors are in both lists?

A. 1, 3, 6, 8
B. 1, 3, 4, 6
C. 1, 2, 4, 6
D. 1, 2, 3, 6

5 Which shape has **exactly** one base?

A. rectangular prism
B. rectangular pyramid
C. sphere
D. cylinder

6 Look at this figure.
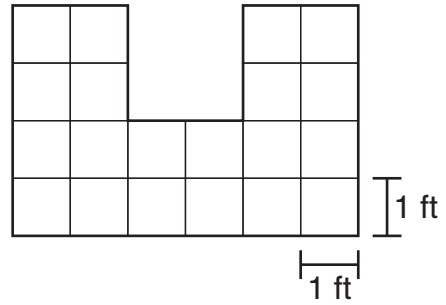
What is the perimeter of the figure?

A. 18 feet
B. 20 feet
C. 22 feet
D. 24 feet

7 Look at this table.

Calcium in Milk

Number of Fluid Ounces	Amount of Calcium (in milligrams)
8	300
16	600
24	900
32	1200

Based on the table, how many **more** milligrams of calcium are in 12 fluid ounces of milk than in 8 fluid ounces of milk?
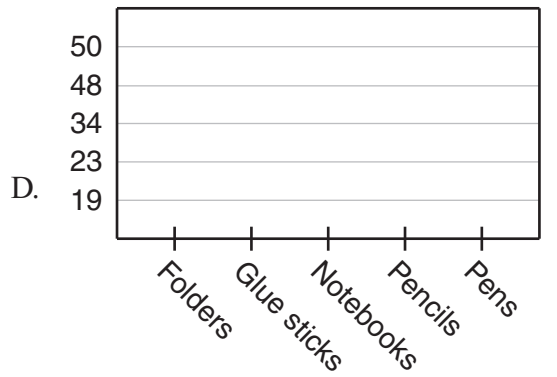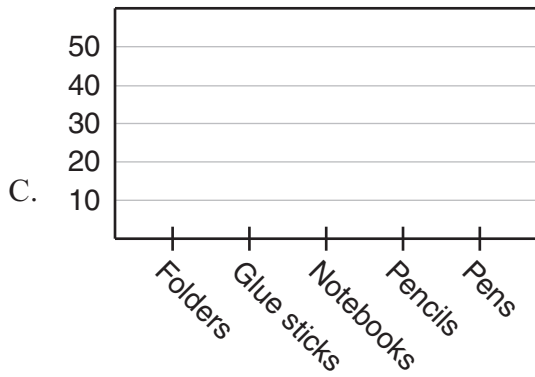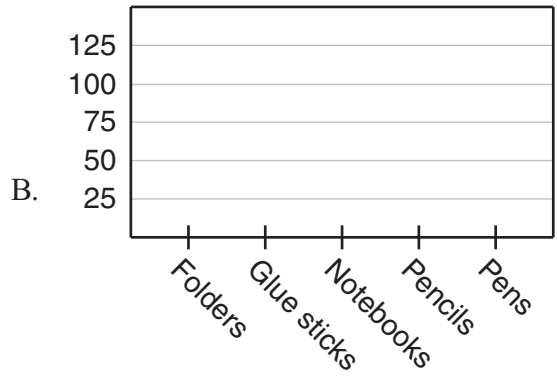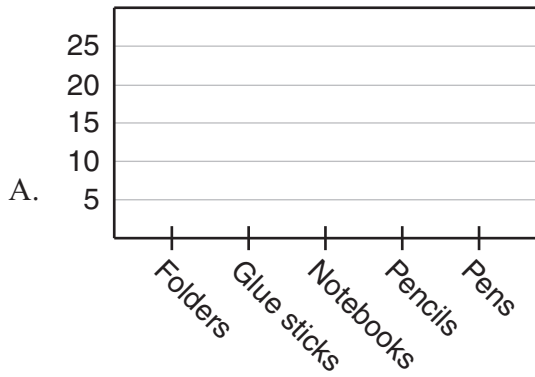
A. 50

B. 100

C. 150

D. 300

8 A bucket of popcorn costs $6 and each soda costs $3. Which expression represents the total cost of 2 buckets of popcorn and n sodas?

A. $6 + n + 3 + 2$

B. $3 + n + 6 \cdot 2$

C. $2 \cdot 6 + 3 \cdot n$

D. $2 \cdot 3 + 6 \cdot n$

9 Richard is making a bar graph of the data in this table.

| School Supply	Number Sold
Folders	19
Glue sticks	34
Notebooks	50
Pencils	48
Pens	23

Which scale is **best** for Richard to use in his bar graph?

A.

| 25 |
| 20 |
| 15 |
| 10 |
| 5 |

Folders Glue sticks Notebooks Pencils Pens

B.

| 125 |
| 100 |
| 75 |
| 50 |
| 25 |

Folders Glue sticks Notebooks Pencils Pens

C.

| 50 |
| 40 |
| 30 |
| 20 |
| 10 |

Folders Glue sticks Notebooks Pencils Pens

D.

| 50 |
| 48 |
| 34 |
| 23 |
| 19 |

Folders Glue sticks Notebooks Pencils Pens

10 Five brothers counted the number of seashells they each collected. The final tally is shown in the chart below.

Name of Brother	Number of Seashells
Adam	ЖЖ |||
Evan	ЖЖ ЖЖ ||
Isaac	ЖЖ
Owen	||||
Pierce	ЖЖ	

The brothers want to compare the number of seashells they each collected. Which bar graph **best** represents the data?

A.

B.

C.

D.
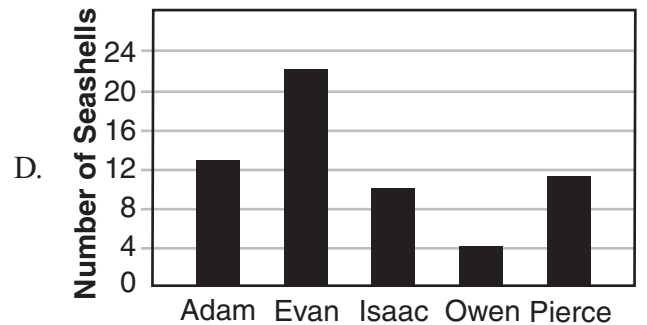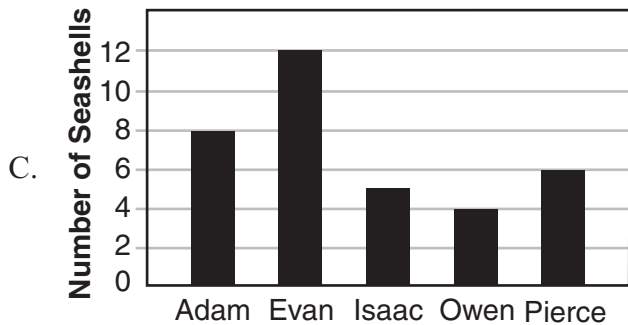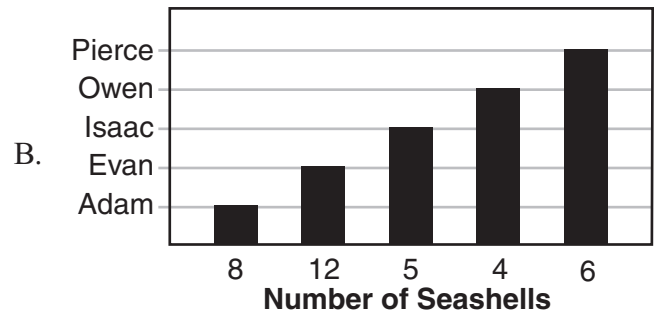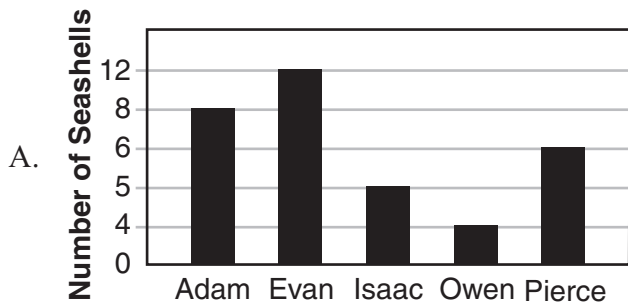
11 Look at Figure P and Figure Q.
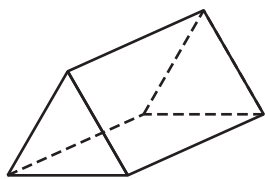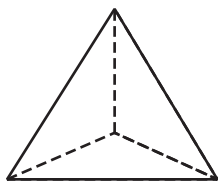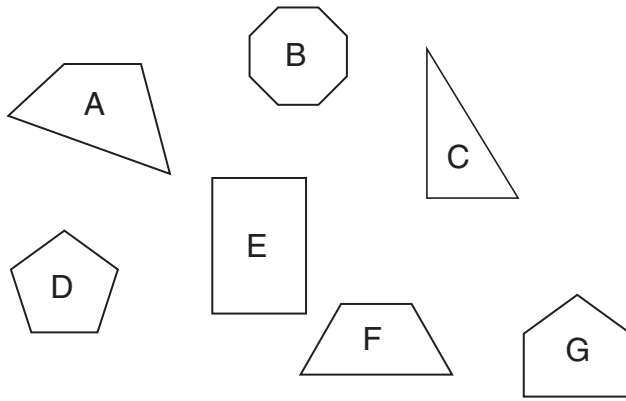

Figure P   Figure Q

Describe **one** difference between Figure P and Figure Q. Use one or more of these words in your answer: bases, faces, edges, vertices.

12 A football team scored the following numbers of points in last season's games.

14, 7, 13, 6, 7, 20, 14, 10, 7, 3, 9

What is the mode number of points scored?

13 Look at these seven shapes.

Sort the seven shapes into the following two groups.

- Group I must have shapes with no pairs of parallel sides.
- Group II must have shapes with at least one pair of parallel sides.
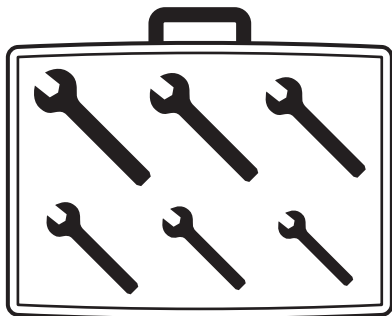
Label the groups "Group I" and "Group II."

14 Janet is n years old. Megan is 4 years younger than Janet.

a. Use n to write an expression to represent Megan's age.

b. When Megan is 18, how old will Janet be?

15 David has this set of different-sized wrenches.

He takes out a wrench with a size of $\frac{5}{8}$ inch and another wrench with a size of $\frac{7}{16}$ inch.

a. Which of these two wrench sizes is larger? Show your work or explain how you know.

David needs a different wrench with a size between $\frac{1}{4}$ inch and $\frac{3}{8}$ inch.

b. What size wrench could David use? Write your answer as a fraction. Show your work or explain how you know.

David will put away the wrenches with the sizes listed below.

$$\frac{3}{8} \text{ inch,} \quad \frac{7}{16} \text{ inch,} \quad \frac{13}{32} \text{ inch}$$

c. What is the order of these wrench sizes from least to greatest? Show your work or explain how you know.