State of Texas Assessments of Academic Readiness

GRADE 4

Mathematics

Practice Assessment

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STAAR GRADE 4 MATHEMATICS REFERENCE MATERIALS

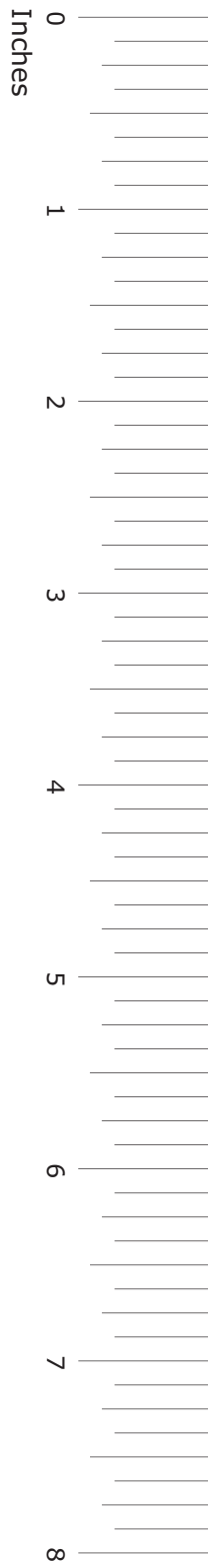
STAAR®
State of Texas Assessments of Academic Readiness

PERIMETER

Square			$P = 4s$
Rectangle	$P = l + w + l + w$	or	$P = 2l + 2w$

AREA

Square	$A = s \times s$
Rectangle	$A = l \times w$



STAAR GRADE 4 MATHEMATICS REFERENCE MATERIALS

LENGTH

Customary	Metric
1 mile (mi) = 1,760 yards (yd)	1 kilometer (km) = 1,000 meters (m)
1 yard (yd) = 3 feet (ft)	1 meter (m) = 100 centimeters (cm)
1 foot (ft) = 12 inches (in.)	1 centimeter (cm) = 10 millimeters (mm)

VOLUME AND CAPACITY

Customary	Metric
1 gallon (gal) = 4 quarts (qt)	1 liter (L) = 1,000 milliliters (mL)
1 quart (qt) = 2 pints (pt)	
1 pint (pt) = 2 cups (c)	
1 cup (c) = 8 fluid ounces (fl oz)	

WEIGHT AND MASS

Customary	Metric
1 ton (T) = 2,000 pounds (lb)	1 kilogram (kg) = 1,000 grams (g)
1 pound (lb) = 16 ounces (oz)	1 gram (g) = 1,000 milligrams (mg)

TIME

1 year = 12 months

1 year = 52 weeks

1 week = 7 days

1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds

MATHEMATICS

DIRECTIONS

Read each question carefully. Choose the best answer to each question. For open-response questions, determine the best answer to the question.

1 An artist poured 6.09 kilograms of orange sand and 14.26 kilograms of blue sand into a mixing container for a project. What was the total amount of sand the artist poured into the container in kilograms?

Ⓐ 21.16 kg

Ⓑ 14.95 kg

Ⓒ 20.25 kg

Ⓓ 20.35 kg

---

2 A parade began at 11:30 a.m. and ended at 2:18 p.m. How long did the parade last?

Ⓐ 2 hours 48 minutes

Ⓑ 9 hours 12 minutes

Ⓒ 3 hours 12 minutes

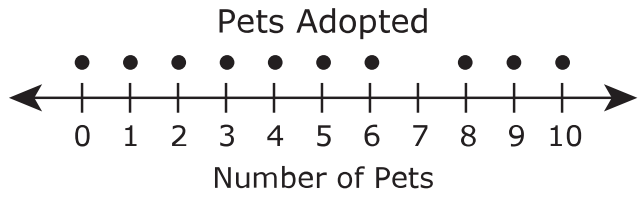
Ⓓ 13 hours 48 minutes

3 The list shows the number of pets adopted from an animal shelter each day for 2 weeks.

2 3 5 1 8 6 3 4 9 8 9 0 10 8

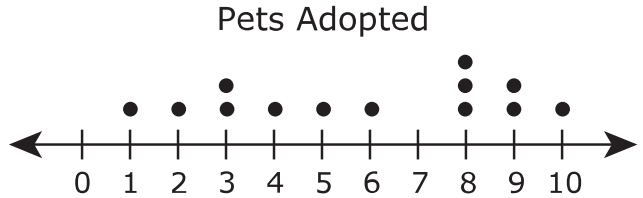
Which dot plot displays the same data?

Ⓐ



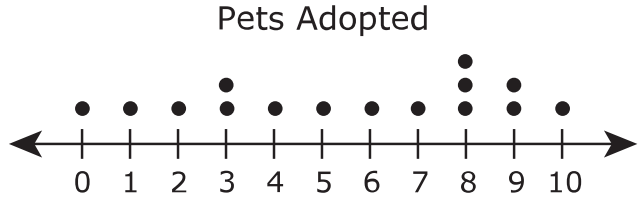
Each ● represents 1 day.

Ⓑ



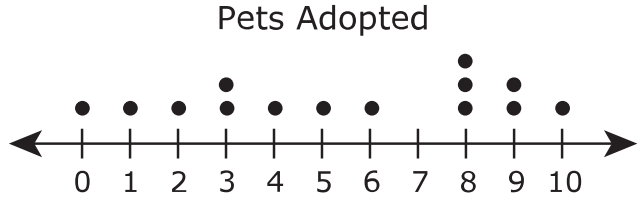
Each ● represents 1 day.

Ⓒ



Each ● represents 1 day.

Ⓓ



Each ● represents 1 day.

4 Kara drew a polygon with exactly one pair of parallel sides. Which of these could be the polygon Kara drew?

Ⓐ Rhombus

Ⓑ Parallelogram

Ⓒ Trapezoid

Ⓓ Rectangle

---

5 Which decimal values are equivalent to the given fractions?

Select the correct answer for each box. Not all answers will be used.

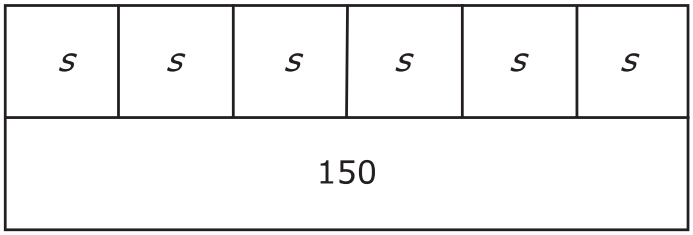
A 2.3 **B** 2.03 **C** 2.103 **D** 0.023 **E** 23 **F** 0.23

$2\frac{3}{100} =$ Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ $\quad 2\frac{3}{10} =$ Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ

6 There are 64 fourth graders and 86 fifth graders signed up for activities on field day. All the students will be grouped into 6 teams, with the same number of students on each team.

Which strip diagram represents *s*, the number of students on each team?

Ⓐ



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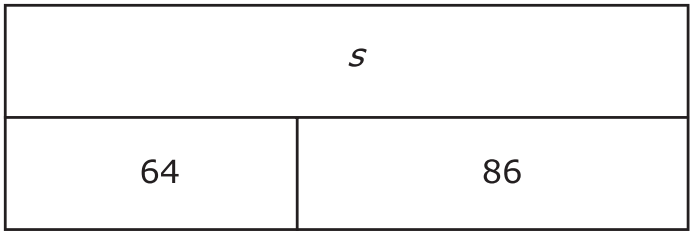

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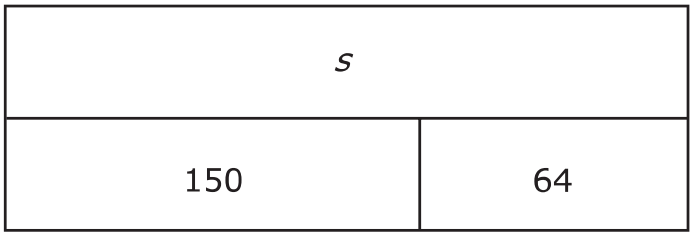
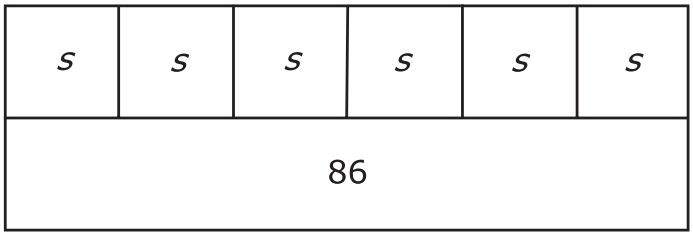


Ⓓ



7 Which statement about the number 927,586.34 is true?

Ⓐ The digit 5 has a value of (5 × 10).

Ⓑ The digit 3 has a value of (3 × 0.01).

Ⓒ The digit 2 has a value of (2 × 10,000).

Ⓓ The digit 9 has a value of (9 × 1,000).

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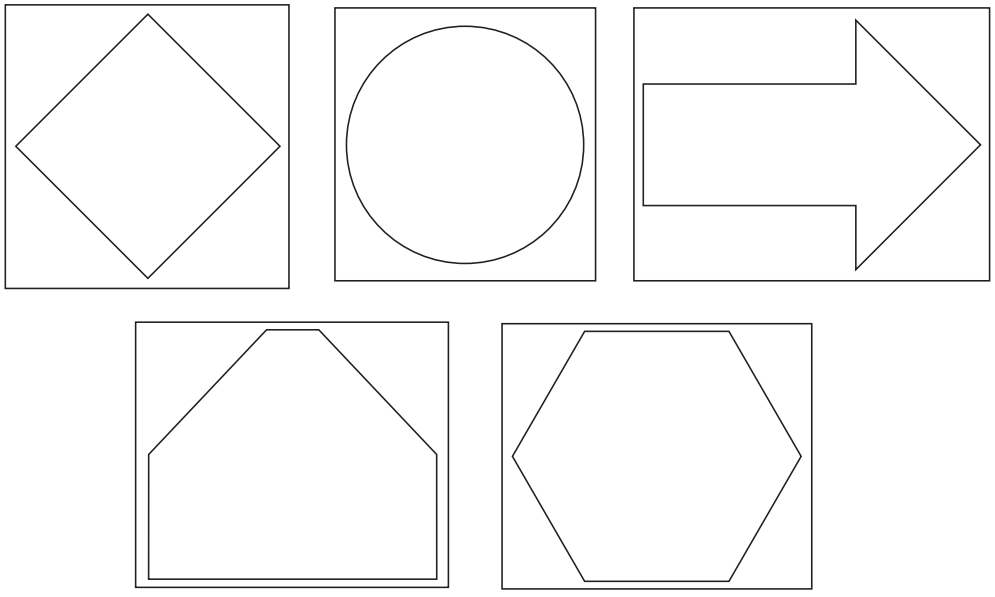
8 Which shapes appear to have exactly one line of symmetry?

Circle **TWO** correct answers.



9 Shay bought 4 packs of markers for $6 each and a box of colored chalk for $11. What was the total cost of the markers and chalk Shay bought?

Ⓐ $35

Ⓑ $17

Ⓒ $50

Ⓓ $68

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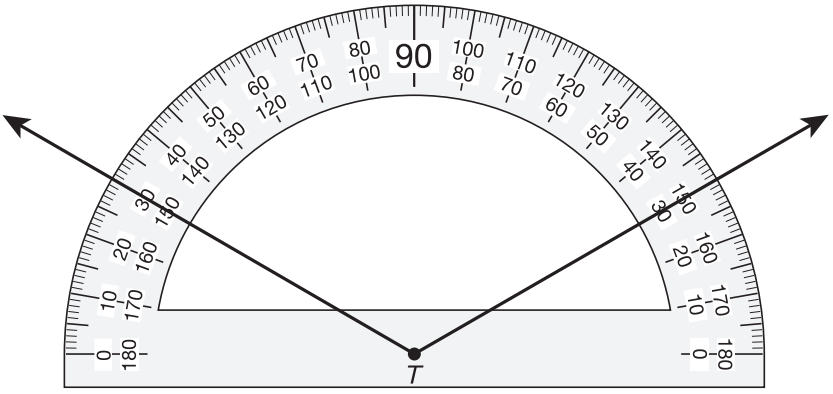
10 Angle *T* is shown on this protractor.



What is the measure of angle *T* in degrees?

Ⓐ 150° because 180° – 30° = 150°

Ⓑ 120° because 150° – 30° = 120°

Ⓒ 60° because 30° + 30° = 60°

Ⓓ 30° because 180° – 150° = 30°

11 Clara made three different kinds of gift baskets. Each basket contains fruit, candy, or cookies.

- $\frac{3}{12}$ of the baskets contain fruit.
- $\frac{5}{12}$ of the baskets contain candy.
- The rest of the baskets contain cookies.

Which expression completes each statement to make it true?

Select the correct answer for each box. Each answer may be used more than once. Not all answers will be used.

A $\frac{3}{12} + \frac{5}{12}$ **B** $\frac{12}{12} - \frac{3}{12} - \frac{5}{12}$ **C** $\frac{5}{12} - \frac{3}{12}$ **D** $\frac{12}{12} + \frac{3}{12} + \frac{5}{12}$

The fraction of the baskets that contain fruit or candy is [Ⓐ Ⓑ Ⓒ Ⓓ].

The fraction of the baskets that contain cookies is [Ⓐ Ⓑ Ⓒ Ⓓ].

---

12 Juanita is making a butterfly costume. She needs 4 feet 8 inches of pink ribbon and 2 feet 10 inches of silver ribbon. What is the total amount of ribbon she needs for the costume?

Ⓐ 6 feet 6 inches

Ⓑ 6 feet 8 inches

Ⓒ 7 feet 8 inches

Ⓓ 7 feet 6 inches

13 Purnit completed a science challenge in $1\frac{3}{5}$ hours. Hailey completed the same challenge in less time than Purnit.

Which of these could be the amount of time it took Hailey to complete the challenge?

Select **TWO** correct answers.

- ◯ $1\frac{3}{4}$ hours
- ◯ $1\frac{2}{3}$ hours
- ◯ $1\frac{2}{6}$ hours
- ◯ $1\frac{1}{8}$ hours
- ◯ $1\frac{6}{10}$ hours

---

14 Rajesh bought 2 salads for $3.65 each and a sandwich for $4.35. He gave the clerk $15.00 to pay for the items.

How much change should Rajesh have received in dollars and cents?

Record your answer in the space provided.

15 The table shows the equivalent numbers of pints for different numbers of quarts.

Equivalent Measures

Quarts	Pints
8	16
12	24
24	48

Adam made 30 quarts of lemonade. What was the total number of pints of lemonade Adam made?

Ⓐ 38

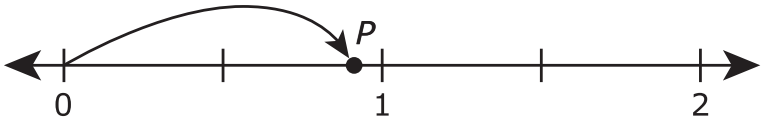
Ⓑ 72

Ⓒ 60

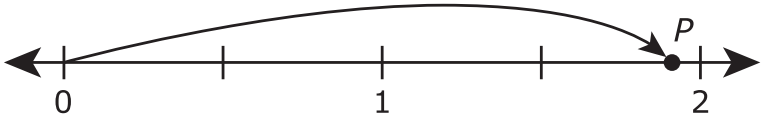
Ⓓ 15

16 On which number line does point *P* best represent a distance of 1.09 units from 0?

Ⓐ



Ⓑ



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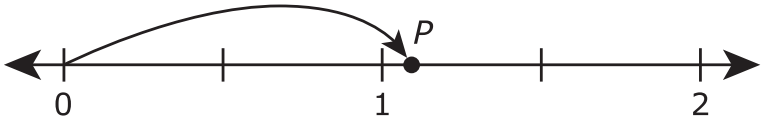
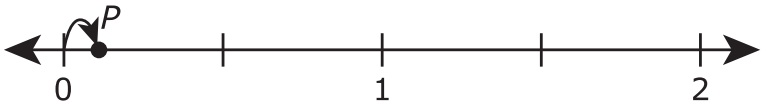


Ⓓ



17 The table shows a relationship between input numbers and output numbers.

Input	Output
4	8
5	10
6	12

Which rule can be used to find the output number when the input number is given?

Ⓐ + 4

Ⓑ + 1

Ⓒ ÷ 2

Ⓓ × 2

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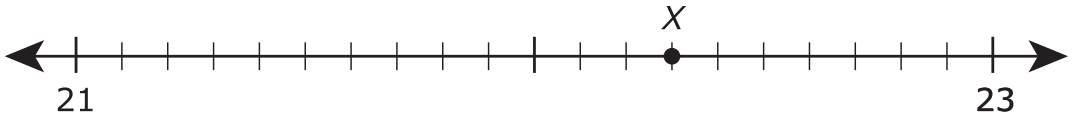
18 Which decimal best represents the location of point *X* on this number line?



Ⓐ 21.13

Ⓑ 22.3

Ⓒ 22.03

Ⓓ 23.7

19 The list shows the ages of volunteers cleaning up a beach.

13 20 15 16 18 45 41 32 21 47 53 24 18 16

The stem and leaf plot was made to display the data.

Ages of Volunteers

Stem	Leaf
1	3 5 6 6 8
2	1 4
3	2
4	1 5 7
5	3

2|1 means 21.

Which data are missing from the stem and leaf plot?

Select **TWO** correct answers.

- ◯ 18
- ◯ 12
- ◯ 20
- ◯ 14
- ◯ 51

20 Carmine has 291 balloons. She put the same number of balloons into 3 groups.

What is the best estimate of the number of balloons in each group?

Ⓐ 90

Ⓑ 100

Ⓒ 75

Ⓓ 85

---

21 A zoo had 82,649 visitors last year. What is 82,649 rounded to the nearest ten thousand?

Ⓐ 80,000

Ⓑ 90,000

Ⓒ 83,000

Ⓓ 82,600

22 A cashier worked 6 hours each day for 8 days. The cashier was paid $10 for each hour worked.

Which equation represents t, the total amount the cashier was paid for the hours worked?

Ⓐ $10 \times 6 = t$

Ⓑ $6 \times 8 \times 10 = t$

Ⓒ $6 + 8 \times 10 = t$

Ⓓ $10 \times 8 = t$

---

23 Isaac drew two rectangles.

- Rectangle X has a perimeter of 20 units.
- Rectangle Y has an area of 20 square units.

Which measurements could be the dimensions of each rectangle?

Select the correct answer for each box. Each answer may be used more than once. Not all answers will be used.

A Length: 10 units Width: 2 units	**B** Length: 13 units Width: 7 units
C Length: 6 units Width: 4 units	**D** Length: 10 units Width: 10 units

Rectangle X: Ⓐ Ⓑ Ⓒ Ⓓ

Rectangle Y: Ⓐ Ⓑ Ⓒ Ⓓ

24 A family plans to drive 1,584 miles in 4 days. The family will drive the same number of miles each day.

Which equation could be used to find the number of miles the family will drive each day?

Ⓐ 1,584 + 4 = 1,588

Ⓑ 1,584 × 4 = 6,336

Ⓒ 1,584 ÷ 4 = 396

Ⓓ 1,584 – 4 = 1,580

---

25 The frequency table shows the number of visitors a park had on three different days.

Park Visitors

Day	Number of Visitors
Friday	𝍸 𝍸 |||
Saturday	𝍸 𝍸 𝍸 𝍸 𝍸 |
Sunday	𝍸 𝍸 𝍸 ||

What was the total number of visitors the park had over those three days?

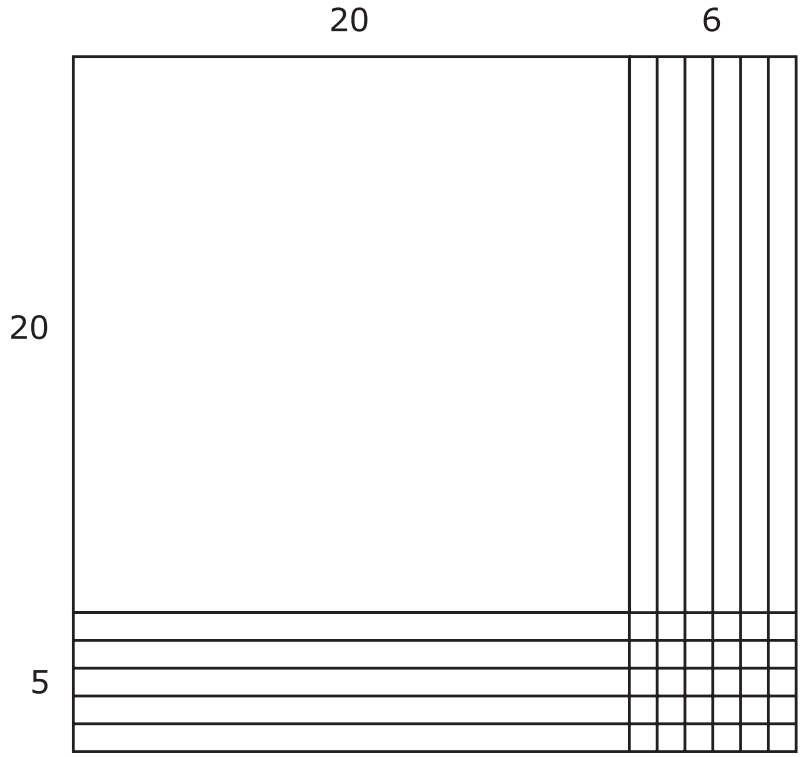
Ⓐ 50

Ⓑ 13

Ⓒ 56

Ⓓ 106

26 Which equation is represented by this model?



Ⓐ 26 × 25 = 650

Ⓑ 40 × 11 = 440

Ⓒ 20 × 6 = 120

Ⓓ 20 × 5 = 100

GO ON

27 The table describes three triangles using angle measures. Which term can be used to classify each triangle described in the table?

Select the correct answer for each box. Each answer may be used more than once. Not all answers may be used.

A Acute **B** Obtuse **C** Right

Triangles

Triangle	Angle Measures	Classification
Triangle *XYZ*	Angle *X* = 60° Angle *Y* = 15° Angle *Z* = 105°	Ⓐ Ⓑ Ⓒ
Triangle *ABC*	Angle *A* = 55° Angle *B* = 35° Angle *C* = 90°	Ⓐ Ⓑ Ⓒ
Triangle *RST*	Angle *R* = 65° Angle *S* = 45° Angle *T* = 70°	Ⓐ Ⓑ Ⓒ

---

28 Shane sold birdhouses at a craft fair. Materials for the birdhouses cost $32.58. She received $164.80 from the sale of all the birdhouses.

What was Shane's profit on the birdhouses?

Ⓐ $132.22

Ⓑ $197.38

Ⓒ $164.80

Ⓓ $32.58

29 The walking path in a park is $\frac{56}{100}$ mile long. Which decimal represents the length of the walking path in miles?

Ⓐ 5,600

Ⓑ 0.56

Ⓒ 5.60

Ⓓ 560

---

30 Reza sorted a box of books.

- $\frac{3}{5}$ of the books were mysteries.
- $\frac{1}{3}$ of the books were science fiction.
- The rest of the books were biographies.

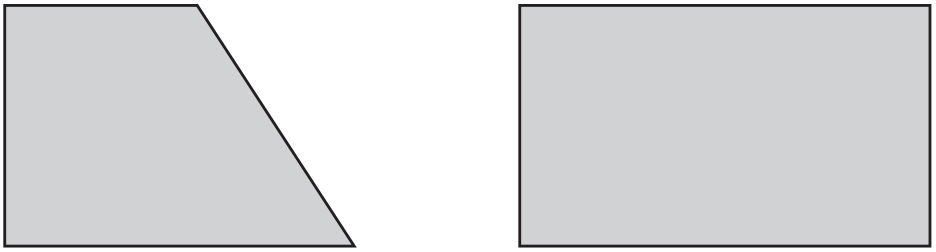
How could the books in the box be described?

Select **ONE** correct answer in each box to complete each sentence.

Ⓐ Exactly Ⓑ More than Ⓒ Less than	half the books in the box were mysteries.

Ⓐ Exactly Ⓑ More than Ⓒ Less than	half the books in the box were biographies.

31 These two shapes have at least one common characteristic.



Which description is true for both shapes?

Ⓐ Shapes with only parallel sides

Ⓑ Shapes with only right and acute angles

Ⓒ Shapes with obtuse angles

Ⓓ Shapes with perpendicular and parallel sides

---

32 Which expression represents the number 306.9 in expanded notation?

Ⓐ $(3 \times 10) + (6 \times 1) + (9 \times 0.1)$

Ⓑ $(3 \times 100) + (6 \times 1) + (9 \times 0.01)$

Ⓒ $(3 \times 100) + (6 \times 10) + (9 \times 1)$

Ⓓ $(3 \times 100) + (6 \times 1) + (9 \times 0.1)$

BE SURE YOU HAVE RECORDED ALL OF YOUR ANSWERS IN THE TEST BOOKLET.

STOP

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