Grade **8**

New York State Testing Program

Mathematics

Book 1
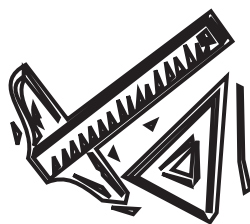
May 10 and 11, 2005

Sample A

The school auditorium was $\frac{7}{8}$ full. What percent of the auditorium was full?
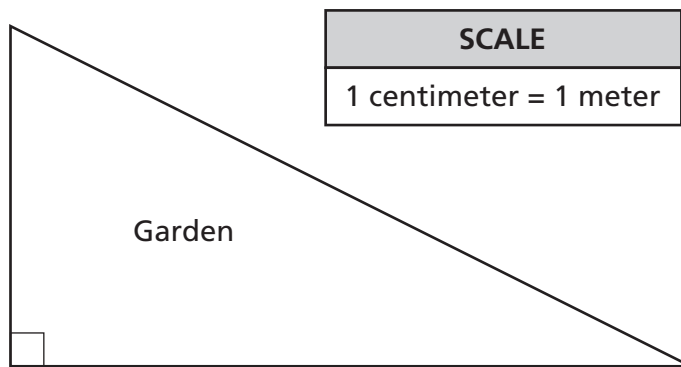
A   7.8%

B   37.5%

C   62.5%

D   87.5%

Sample B

Use your ruler to help you solve this problem.

A garden is in the shape of a triangle as shown in the figure below. The garden is to be enclosed by a fence.

SCALE
1 centimeter = 1 meter

Garden

Based on the scale, how much fencing is needed to enclose the garden?

F   19.1 meters

G   20.7 meters

H   23.5 meters

J   26.6 meters

STOP

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Session 1: Part 1

Page 1

1 What is the missing number in the pattern below?

| 2 | 6 | 18 | 54 | ? | 486 |

A 72

B 90

C 108

D 162

2 What is the value of $2^3 + 2^4$?

F 14

G 24

H 28

J 128

3 A spinner is divided into 6 equal sections numbered from 1 to 6. If the arrow is spun once, what is the probability that it will land on a section numbered 4 or 5?

A $\frac{1}{6}$

B $\frac{2}{6}$

C $\frac{4}{6}$

D $\frac{5}{6}$

4 Travis is three times as old as Anne. Mary is three years older than Travis. If Mary is 39 years old, how old is Anne?

F 12 years old

G 13 years old

H 14 years old

J 16 years old

5 The human heart beats an average of 37,800,000 times in one year. What value of x will make 3.78×10^x have the same value as 37,800,000 ?

A -5

B -7

C 5

D 7

6 Tina is making a scale model of a monument that is 155 feet tall. She uses a scale of 1 inch = 5 feet. How tall should Tina make her model?

F 5 inches

G 8 inches

H 13 inches

J 31 inches

7 At the grocery store, Jerry spent $24.75 for 3 pounds of chicken and 3 pounds of cheese. The cheese cost $4.50 per pound. What was the cost of the chicken per pound?

    A $2.75

    B $3.75

    C $5.75

    D $6.75

8 Four students are reading the same book. The table below shows the portion that each student has read.

READING RECORD

Student	Portion Read
Frankie	$\frac{7}{10}$
Jacqueline	$\frac{2}{3}$
Pierre	$\frac{5}{8}$
Yolanda	$\frac{3}{4}$

Which student has read the largest portion of the book?

    F   Frankie

    G   Jacqueline

    H   Pierre

    J   Yolanda

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Session 1: Part 1

Page 3

9   Which unit of measurement would be most appropriate for measuring the area of a page of newspaper?

   A   square millimeters
   B   square centimeters
   C   square meters
   D   square kilometers

10   What is the value of the expression $7 + 5 \times (-3) - (6 - 2) \div 2$?

   F   -10
   G   -16
   H   -20
   J   -38

11   Which information is *not* needed to calculate the volume of a cylindrical can?

   A   value of π
   B   height of the can
   C   weight of the can
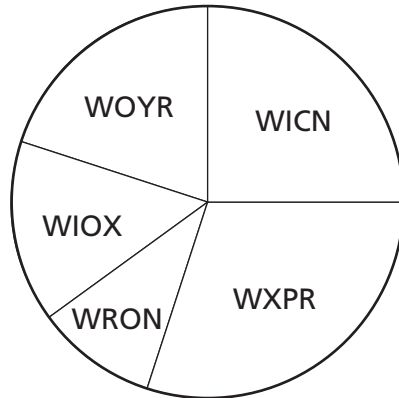   **D**   radius of the base of the can

12   What is the value of *n* in the equation below?

   $$2n - 5 = 23$$

   F   9
   G   14
   H   26
   J   28

13 The circle graph below shows the favorite radio stations of the students in Julie's school.

RADIO STATION SURVEY

Julie's teacher asks her to estimate what percent of the students chose WXPR. Which best represents the percent of students who chose WXPR?

A 10%

B 25%

C 30%

D 45%

14 As students entered a concert, a key chain was given to every second student in line. T-shirts were given to every third student in line. Which student in line was the first to receive both a key chain and a T-shirt?

F 5th

G 6th

H 8th

J 9th

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Session 1: Part 1

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15 Resa gives the clerk a twenty-dollar bill to pay for the oranges shown in the diagram below. The cost of the oranges is $1.89 per pound.
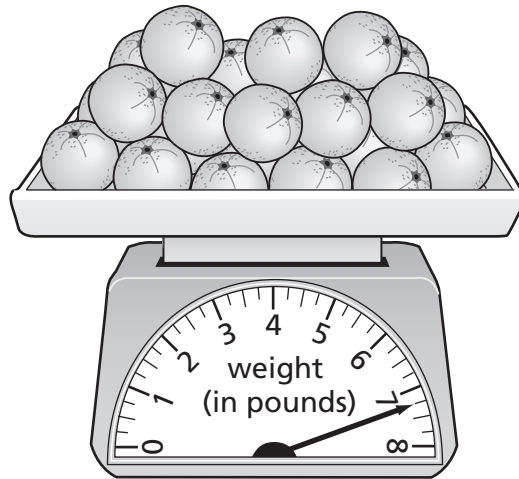
About how much money will Resa receive in change?

A under 5 dollars

B between 5 and 7 dollars

C between 7 and 9 dollars

D over 9 dollars

16 Josh went to the carnival with $12.24. It cost him $5.00 for admission and $0.75 for each ride. Josh bought one drink for $1.25, and he rode as many rides as he could afford. If Josh did not buy anything else, how much money did he have when he left the carnival?

F $0.01

G $0.24

H $0.49

J $0.74

17 If $x = -24$ and $y = 6$, what is the value of the expression $|x + y|$?

    A   18

    B   30

    C   -18

    D   -30

18 The video store rents movies for $3.50 the first day. There is a $2.00 charge for each additional day, *d*. Which expression represents this relationship?

    F $3.50 + $2.00*d*

    G $3.50*d* + $2.00

    H $3.50 − $2.00*d*

    J $3.50*d* − $2.00

19 The points John scored in his first 12 basketball games are shown in increasing order below.
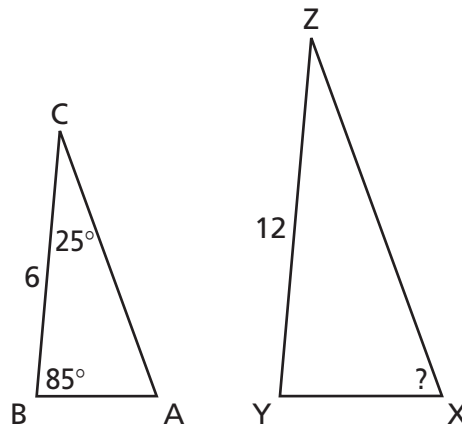
$$5, 7, 10, 14, 16, 16, 20, 20, 20, 21, 21, 22$$

John scores 29 points in the next game. Which statement is true of the median of his points for the 13 games compared to the median of his points for the first 12 games?

    A   The median will stay the same.

    B   The median will increase by one.

    C   The median will increase by two.

    D   The median will increase by four.

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Session 1: Part 1

Page 7

20   Triangle ABC is similar to triangle XYZ.

What is the measure of angle X?

F   70°

G   85°

H   110°

J   140°

21   Sam typed 420 words in 10 minutes. If he continues to type at this rate, how many words will he have typed in 3 hours?

A   756

B   1,260

C   2,520

D   7,560

22 Use your ruler to help you solve this problem.

The line segment below represents the width of a rectangle Mike is drawing. He wants the length to be 3 times the width.

What will be the length of the rectangle in centimeters?

F 4.5

G 7.5

H 9.0

J 13.5

**23** Sandy earns $8.00 an hour working as a lifeguard. She used the formula $E = 8h$ to calculate her earnings.

- E = earnings
- h = hours worked

When h is doubled, what happens to E?

A E is eight times as much.

B E is twice as much.

C E is half as much.

D E stays the same.

Go On

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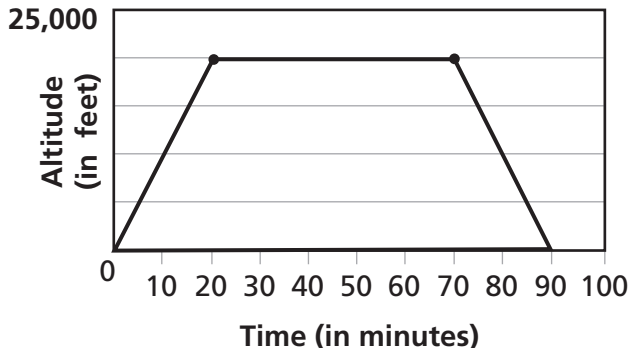**Session 1: Part 1**

Page 9

24 Enrique is taking a plane trip. The plane will take off and ascend for about 20 minutes, maintain a constant altitude for about 50 minutes, and then descend for about 20 minutes before landing. Which graph shows Enrique's trip?
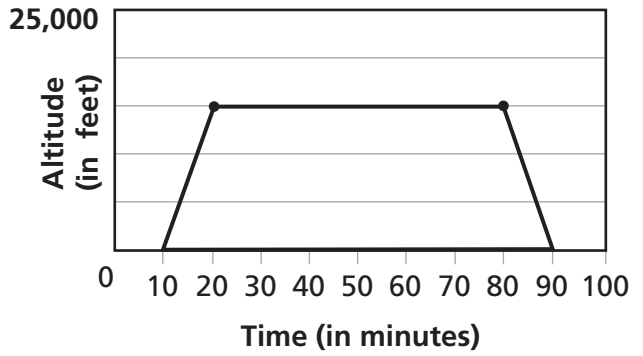

F

H

G

J

Session 1: Part 1
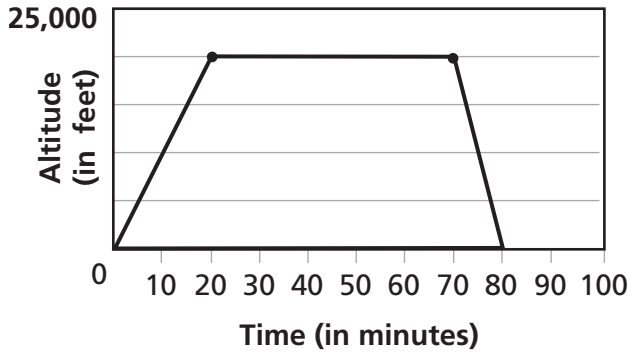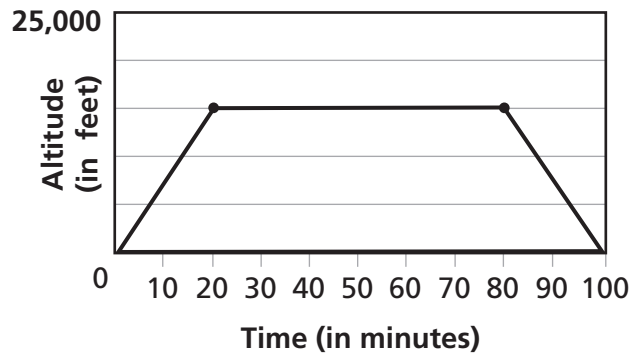
25 Pat said that the amount of money he has in his pocket is greater than or equal to $5.75 but less than $13.00. Which number line shows the amount of money Pat might have?

A

B

C

D

26 Silvia hiked a 30-mile trail in 3 days. The first day, she hiked 50% of the total distance. The second day, she hiked 25% of the distance that *remained*. How many miles did she hike the third day?
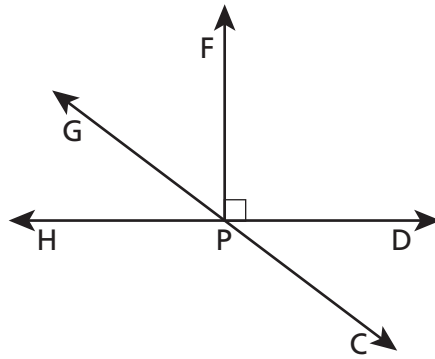
F $3\frac{3}{4}$

G $7\frac{1}{2}$

H $11\frac{1}{4}$

J $22\frac{1}{2}$

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Session 1: Part 1

Page 11

27 In the diagram below, $\overrightarrow{PF} \perp \overleftrightarrow{HD}$.

Which angles are complementary?

A ∠GPH and ∠DPC

B ∠GPF and ∠GPH

C ∠GPD and ∠DPC

D ∠GPF and ∠FPC

Session 1: Part 1

STOP

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