



New York State Testing Program

Mathematics Book 2

Grade

7

March 13–17, 2006

Name _____





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TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Be sure to read carefully all the directions in the test book.
- You may use your tools to help you solve any problem on the test.
- Read each question carefully and think about the answer before choosing your response.
- Be sure to show your work when asked. You may receive partial credit if you have shown your work.
- Use your calculator to help you solve the problems on this part of the test.



This picture means that you will use your ruler.

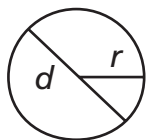


This picture means that you will use your protractor.

Go On

Mathematics Reference Sheet

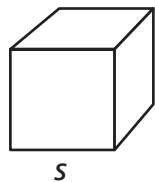
FORMULAS



Circle

$$\text{Area} = \pi r^2$$

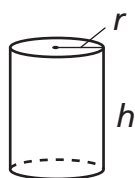
$$\text{Circumference} = 2\pi r$$



Cube

$$\text{Total Surface Area} = 6s^2$$

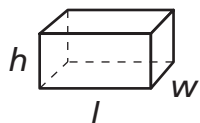
$$\text{Volume} = s^3$$



Right Circular Cylinder

$$\text{Total Surface Area} = 2\pi rh + 2\pi r^2$$

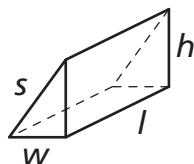
$$\text{Volume} = \pi r^2 h$$



Right Rectangular Prism

$$\text{Total Surface Area} = 2wl + 2lh + 2wh$$

$$\text{Volume} = lwh$$



Right Triangular Prism

$$\text{Total Surface Area} = wh + lw + lh + ls$$

$$\text{Volume} = \frac{1}{2}wh \times l$$

CONVERSIONS

1 centimeter = 10 millimeters

1 meter = 100 centimeters = 1,000 millimeters

1 kilometer = 1,000 meters

1 gram = 1,000 milligrams

1 kilogram = 1,000 grams

1 pound = 16 ounces

1 ton = 2,000 pounds

1 cup = 8 fluid ounces

1 pint = 2 cups

1 quart = 2 pints

1 gallon = 4 quarts

1 liter = 1,000 milliliters

1 kiloliter = 1,000 liters

Tyler surveys his classmates to determine the number and type of pets they have. The frequency table below shows this data.

PETS

Type of Pet	Number
Fish	
Hamster	
Cat	
Dog	

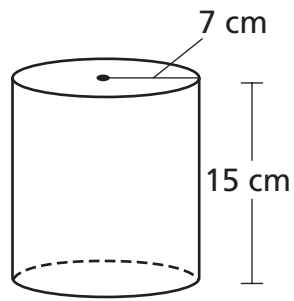
Based on the data, which type of graph is **best** to display Tyler's data?

Answer _____

On the lines below, explain why the graph you chose is **best** to display Tyler's data.

32

Joel draws a picture of his cylinder shown below.



[not drawn to scale]

Calculate the volume of Joel's cylinder. Round your answer to the nearest tenth.

Show your work.

Answer _____ cubic centimeters

33

A youth organization raised \$15,336 by selling gift baskets. Five different teams sold the baskets. Martin's team sold 48 baskets, Amy's team sold 138 baskets, Sharon's team sold 77 baskets, Juan's team sold 250 baskets, and Dee's team sold 126 baskets.

Part A

Each gift basket was the same price. What was the price of one gift basket?

Show your work.

Answer \$ _____

Part B

What is the difference between the amount of money raised by the team that sold the greatest number of gift baskets and the amount of money raised by the team that sold the least number of gift baskets?

Show your work.

Answer \$ _____

Go On



Use your protractor to help you solve this problem.

Josh plans to discuss this year's 7th-grade class budget at the next student council meeting. He decides to display the budget data below in a circle graph.

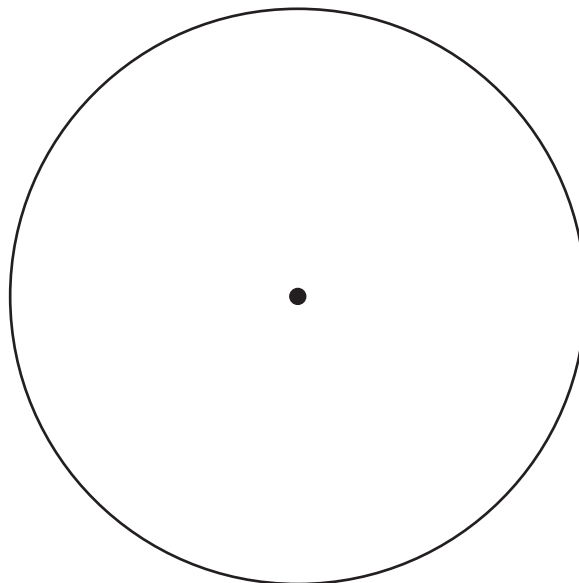
7TH-GRADE CLASS BUDGET

Category	Percent of Budget
Newsletter	15%
Supplies	20%
Special activities	55%
Other expenses	10%

Using your protractor, create a circle graph below by displaying and labeling each of the four budget categories.

Show your work.

7TH-GRADE CLASS BUDGET



35

Sunshine Airline requires each suitcase to weigh 31.75 kilograms or less before it can go onto the airplane. Trisha's suitcase weighs 3,620 grams before it is packed. What is the maximum amount of weight, in kilograms, Trisha can pack in her suitcase and still be allowed to bring her suitcase onto the airplane?

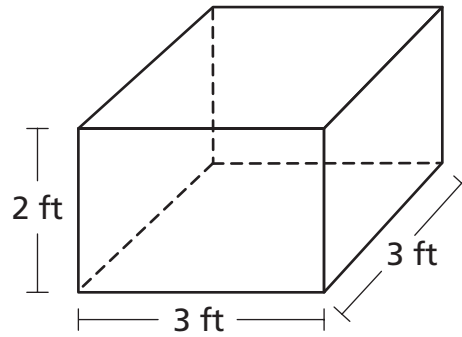
Show your work.

Answer _____ kilograms

Go On

36

Rashid needs to buy some wood to build a box. He must calculate the surface area of the box to determine how much wood to buy. A diagram of the box is shown below.



[not drawn to scale]

How much wood does Rashid need to buy to build the box?

Show your work.

Answer _____ square feet

37

The list below shows the number of students who participate in football and track at Farrell Middle School.

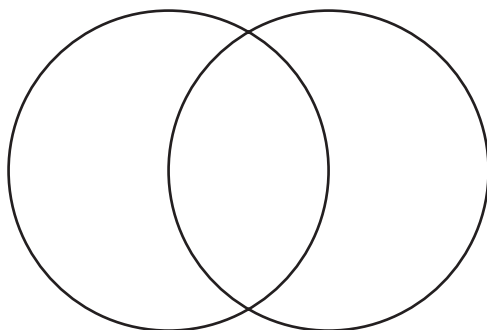
- A total of 33 students participate in football.
- A total of 24 students participate in track.
- There are 8 students who participate in both sports.

Part A

Use the list above to complete the Venn diagram in the space below.

Be sure to

- title the diagram
- label each circle
- place a number in each section of the diagram



Part B

What is the total number of students who participate in these sports?

Answer _____ students

Go On

The population of Los Angeles, California, throughout the 20th century is shown in the table below.

POPULATION OF LOS ANGELES

Year	Population (in millions)
1900	0.1
1920	0.6
1940	1.1
1960	1.8
1980	2.3
2000	2.8

Between which 2 years did the population increase the most?

Answer between _____ and _____

Based on the data in the table, predict the population of Los Angeles in the year 2020. Justify your prediction on the lines below.

STOP



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Place Student Label Here



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