



# ***New York State Testing Program***

## **Mathematics Book 3**

Grade **8**

**March 13–17, 2006**

**Name** \_\_\_\_\_





Developed and published by CTB/McGraw-Hill LLC, a subsidiary of The McGraw-Hill Companies, Inc., 20 Ryan Ranch Road, Monterey, California 93940-5703. Copyright © 2006 by New York State Education Department. All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of New York State Education Department.



## 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 writing 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.

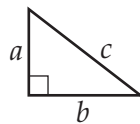


This picture means that you will use your protractor.

## Mathematics Reference Sheet

### FORMULAS

Pythagorean Theorem



$$c^2 = a^2 + b^2$$

Simple Interest

$$I = prt$$

Distance Formula

$$d = rt$$

### CONVERSIONS

Temperature Conversions

$$F = \frac{9}{5}C + 32$$

$$C = \frac{5}{9}(F - 32)$$

Measurement Conversions

$$1 \text{ mile} = 5,280 \text{ feet}$$

$$1 \text{ yard} = 3 \text{ feet}$$

New York State Testing Program

-

■ ■

■

■ ■

■

■ ■

●

**34**

The table below shows the prices of three different-sized packages containing the same type of candy.

**CANDY**

Package	Weight (in ounces)	Package Price	Candy Price (per ounce)
A	8	\$1.60	
B	10	\$1.80	
C	12	\$2.04	

Complete the table to determine which package has the lowest candy price, per ounce.

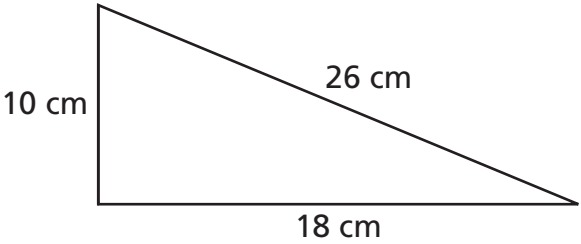
**Show your work.**

**Answer** \_\_\_\_\_

**Go On**

**35**

Pat drew the triangle below.



[not drawn to scale]

Is Pat's triangle a right triangle? Use the Pythagorean theorem to prove whether his triangle is a right triangle.

**Show your work.**

On the lines below, explain why your answer is correct.

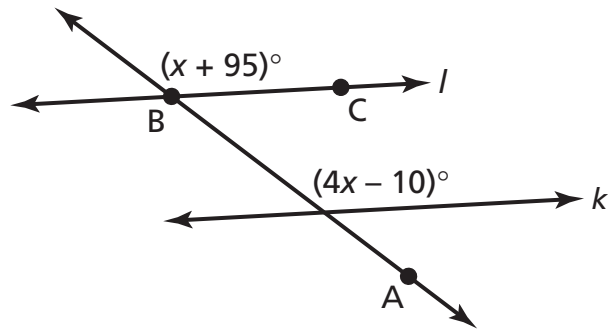
---

---

---

---

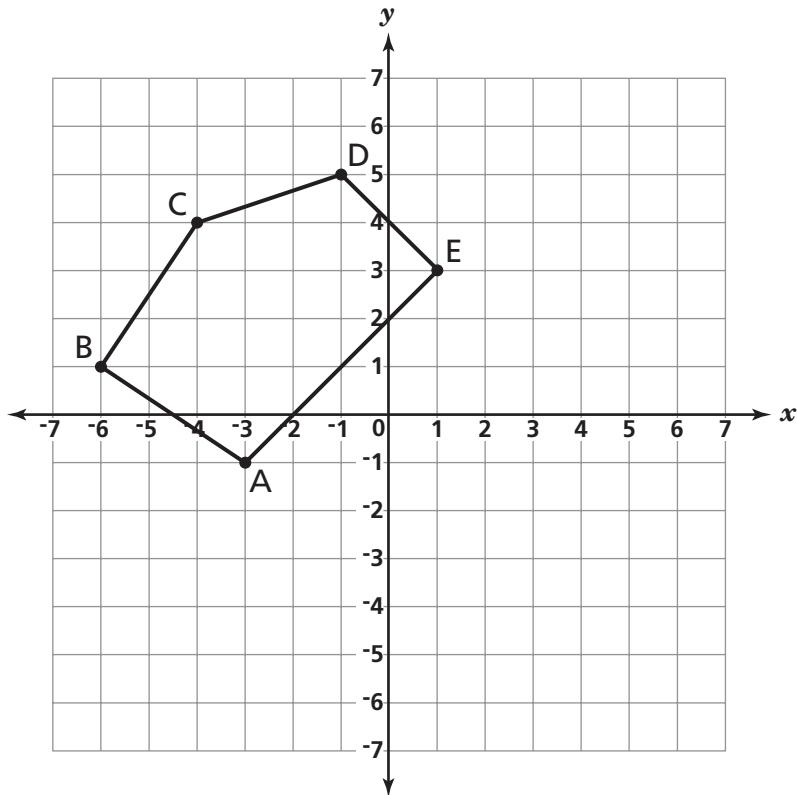
---

**36**In the diagram below, lines  $l$  and  $k$  are parallel.

[not drawn to scale]

**Part A**What is the value of  $x$ ?**Show your work.****Answer** \_\_\_\_\_**Part B**What is the measure, in degrees, of  $\angle ABC$ ?**Answer** \_\_\_\_\_ degrees**Go On**

Pentagon ABCDE is drawn on the grid below.



On the grid, draw a translation of pentagon ABCDE five units down.

Be sure to

- draw the translated shape
- label the translated pentagon A'B'C'D'E'

What are the coordinates for point A' ?

**Answer** (\_\_\_\_ , \_\_\_\_)



**38**

Solve for  $y$  in the equation below.

$$-2y + 11 = -6y + 35$$

**Show your work.**

**Answer** \_\_\_\_\_

**Go On**

**39**

Ben wants to buy a guitar. The regular price of the guitar is \$329.99. The sale price of the guitar is 25% off of the regular price.

**Part A**

What is the sale price of the guitar?

**Show your work.**

**Answer** \$ \_\_\_\_\_

**Part B**

Ben must pay 7.25% sales tax in addition to the sale price of the guitar. What is the total amount Ben must pay for the guitar?

**Show your work.**

**Answer** \$ \_\_\_\_\_

**40**

Jenny's Gift Shop sells candles in a variety of packages. The cost per candle is the same in every package. A package of 8 candles costs \$12.96. Write a proportion that can be used to determine the cost of a package of 3 candles.

**Proportion** \_\_\_\_\_

Solve your proportion to determine the cost of a package of 3 candles.

**Show your work.**

**Answer** \$ \_\_\_\_\_

**Go On**

**41**Solve for  $x$  in the equation below.

$$8(2x - 3) = -16$$

***Show your work.******Answer*** \_\_\_\_\_

Carlotta conducted an experiment on the growth rate of bacteria. The table below shows her results.

**GROWTH RATE  
OF BACTERIA**

Number of Hours ( $h$ )	Number of Bacteria ( $b$ )
0	20
1	56
2	92
3	128

Write a function rule for the number of bacteria,  $b$ , after  $h$  hours.

**Answer** \_\_\_\_\_

What will the number of bacteria be after 5 hours?

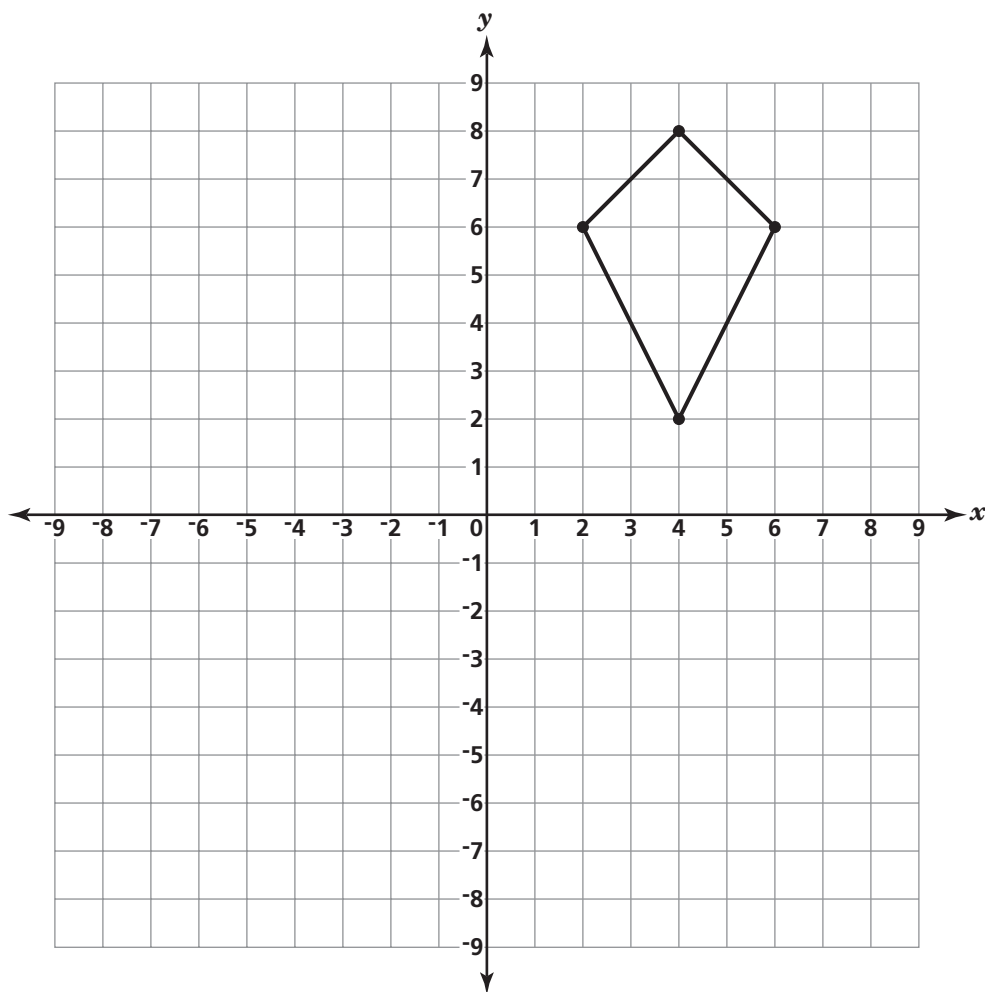
**Show your work.**

**Answer** \_\_\_\_\_ bacteria

**Go On**

43

Melissa drew the shape on the grid shown below. Draw the reflection of this shape in the  $x$ -axis. Label the coordinates of each point on the new figure.



On the lines below, explain how you determined the reflection of the shape.

---

---

---

---

---

---

Heather saw the sign below advertising a sale at The Dress Place.



She has been saving money to buy a dress that regularly costs \$80.00. Heather’s friend Sarah tells her she needs to have between \$40.00 and \$60.00 to buy the dress at the sale price.

On the lines below, explain if Sarah’s estimate is correct.

---

---

---

---

---

---

***Go On***



**45**

Chelsea needs 16 ounces of milk for a recipe. She only has a  $\frac{1}{4}$ -cup measuring cup. How many times does she need to fill the  $\frac{1}{4}$ -cup measuring cup to measure the 16 ounces of milk?

1 cup = 8 fluid ounces

**Show your work.**

**Answer** \_\_\_\_\_ times

**STOP**





-

■

■■■■■

■■

■

■ ■■

●



---

---

Place Student Label Here



**Grade 8**  
**Mathematics**  
**Book 3**  
March 13–17, 2006

*The McGraw-Hill Companies*

