



New York State Testing Program

Mathematics Test Book 3

Grade **8**

March 12–16, 2007

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 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.

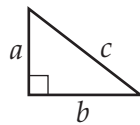


This picture means that you will use your protractor.

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

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

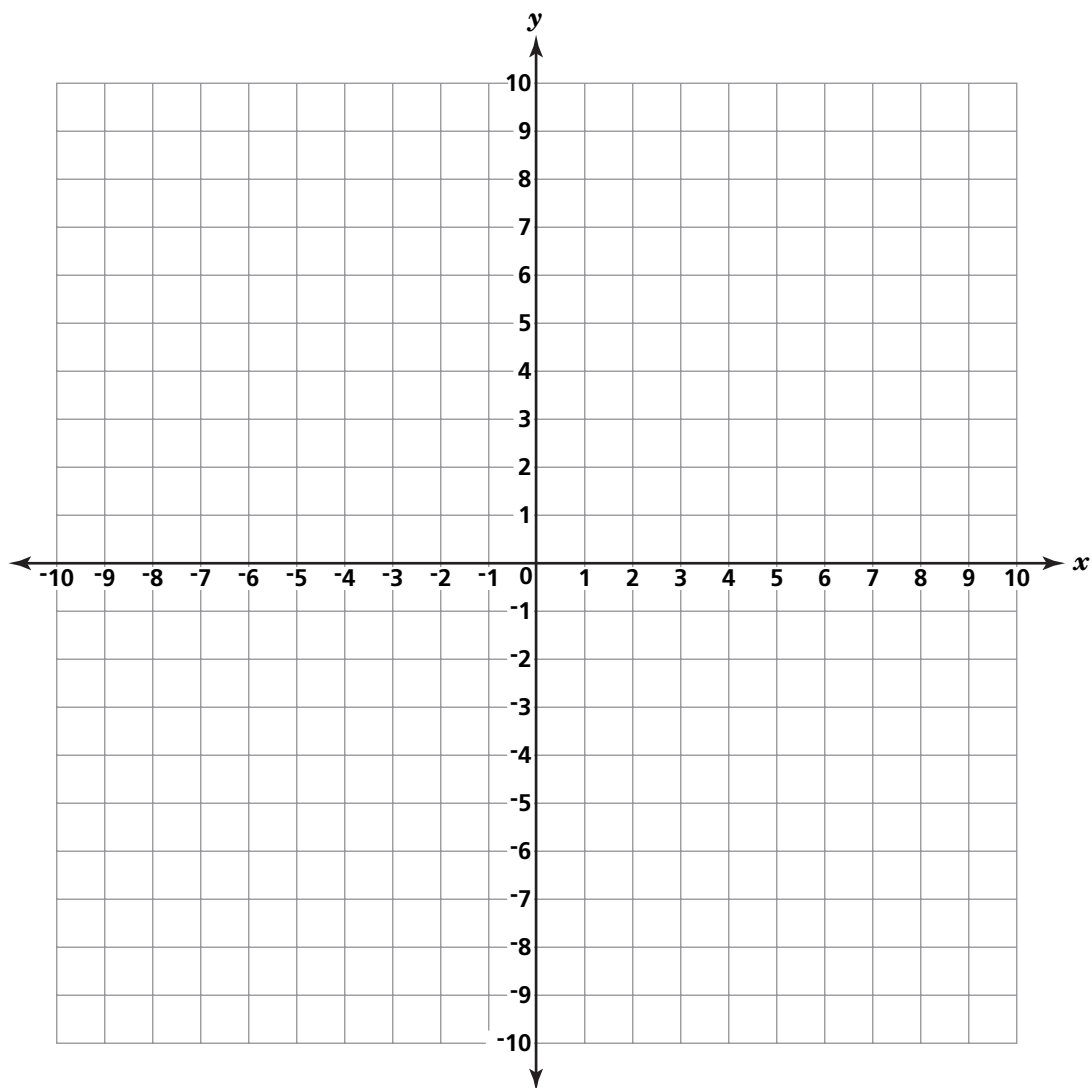
$$1 \text{ yard} = 3 \text{ feet}$$

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34

For a homework assignment, Sarah must draw a line passing through the points $(-3, -3)$ and $(3, 3)$.

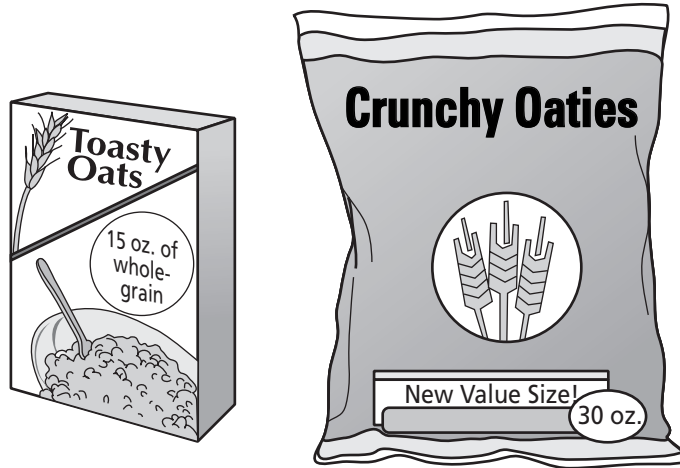
Graph Sarah's line on the grid below.



Go On

35

Eliana and her sister are comparing the prices of two brands of cereal. Toasty Oats costs \$2.25 for a 15-ounce box. Crunchy Oaties costs \$3.90 for a 30-ounce bag.



Part A

What is the price per ounce of the Toasty Oats?

Show your work.

Answer \$ _____ per ounce

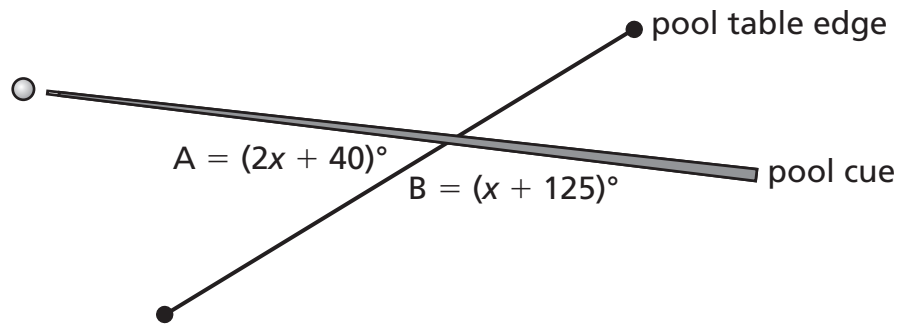
Part B

How much more expensive is Toasty Oats per ounce than Crunchy Oaties?

Answer \$ _____ per ounce

36

Gabrielle angles her pool cue against the edge of her pool table, as shown below.



[not drawn to scale]

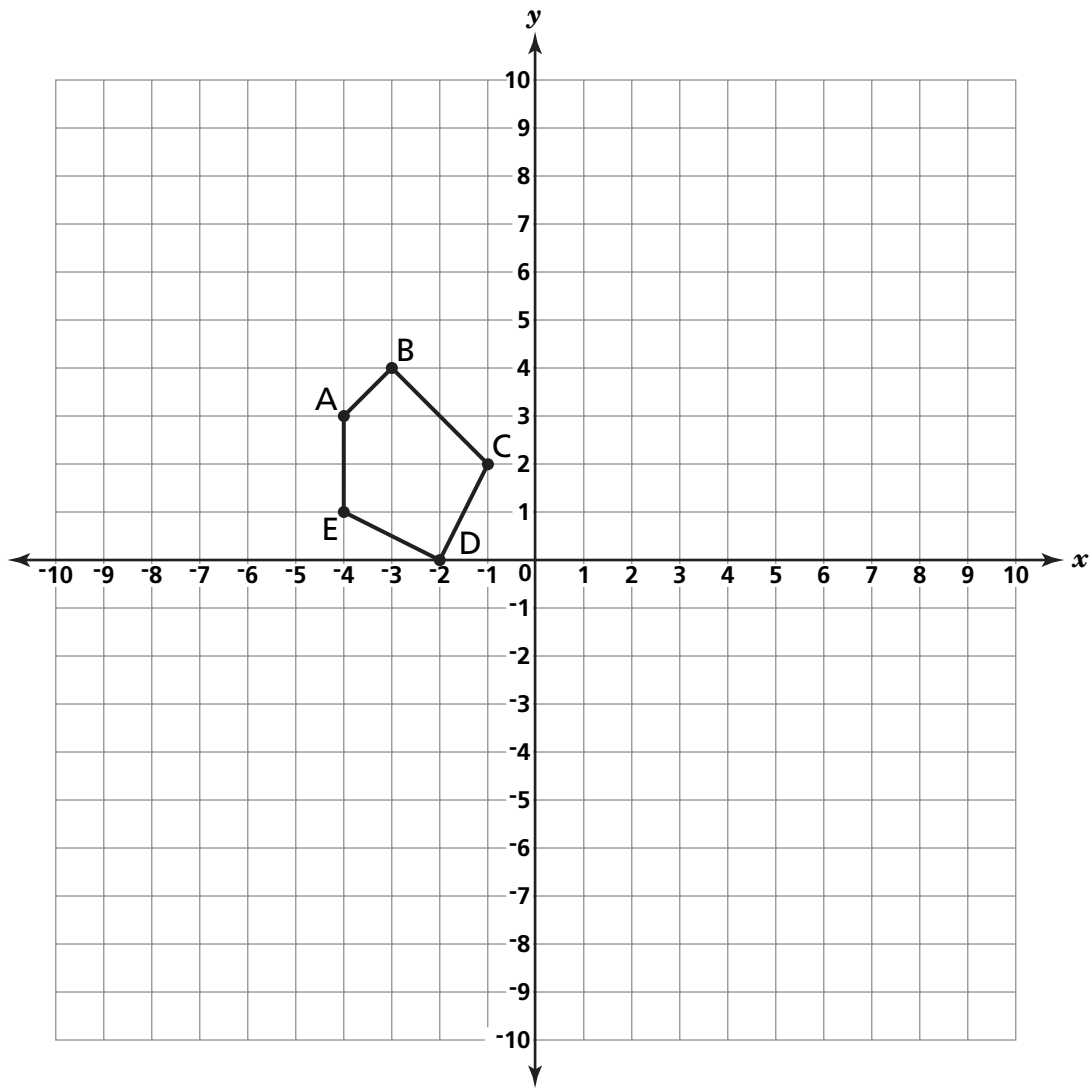
What is the measure of $\angle A$?

Show your work.

Answer _____ degrees

Go On

Pentagon ABCDE is plotted on the grid below.



Part A

On the grid, draw the translation of pentagon ABCDE five units to the right and three units down. Label the translated figure A'B'C'D'E'.

Part B

On the lines below, explain how you determined the location of A'.

Go On

The table below shows the number of chaperones, y , needed for a certain number of students, x , at a school dance.

SCHOOL DANCE

Number of Students (x)	32	48	64	96
Number of Chaperones (y)	4	6	8	12

Write an equation that represents the relationship between the number of chaperones needed and the number of students attending a dance.

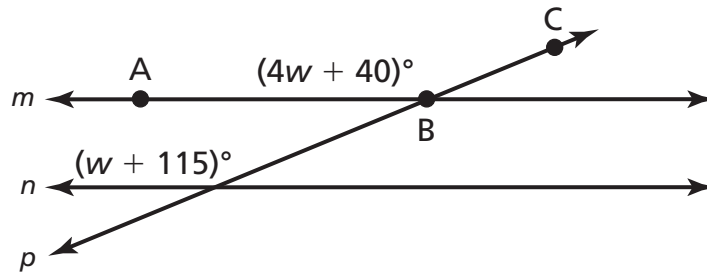
Equation _____

How many chaperones will be needed for a dance that has 240 students?

Answer _____ chaperones

39

In the figure below, line m is parallel to line n . Line p is a transversal.



[not drawn to scale]

What is the measure of $\angle ABC$?

Show your work.

Answer _____ degrees

Go On

The table below shows Jeffrey's bank account balance for the past six weeks.

**JEFFREY'S
BANK ACCOUNT**

Week (w)	Balance (b)
1	\$10
2	\$24
3	\$38
4	\$52
5	\$66
6	\$80

Part A

Using information from the table, write an equation that represents the balance, b , in Jeffrey's bank account as a function of the number of weeks, w .

Answer _____

Part B

Use your equation or the information in the table to find what Jeffrey's bank account balance will be in Week 8.

Answer \$ _____

41

Zach earns \$160 per week at a local market. He makes a payment of \$12 per week for a new bike. He spends \$75 each week on food and entertainment. Zach deposits the rest of his money in a savings account. Zach estimates that he deposits about 25% of the \$160 into his savings account each week.

Part A

Is Zach's estimate correct?

Answer _____

On the lines below, explain how you determined your answer.

Part B

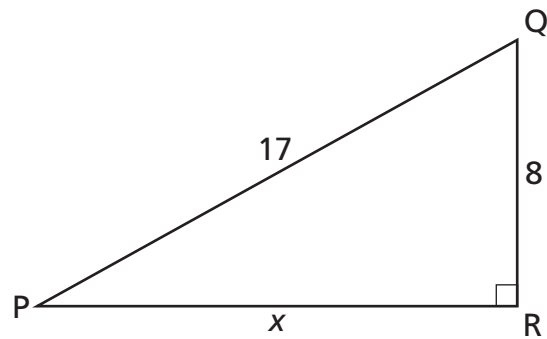
How much of his weekly earnings would Zach need to deposit in order to save 40%?

Answer \$ _____

Go On

42

Triangle PQR is a right triangle.



[not drawn to scale]

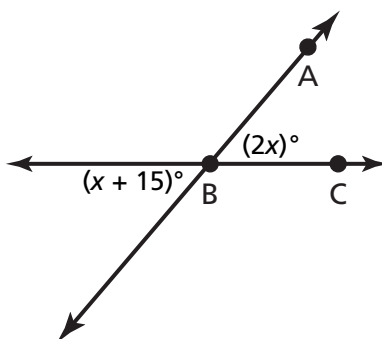
What is the length of side x ?

Show your work.

Answer _____

43

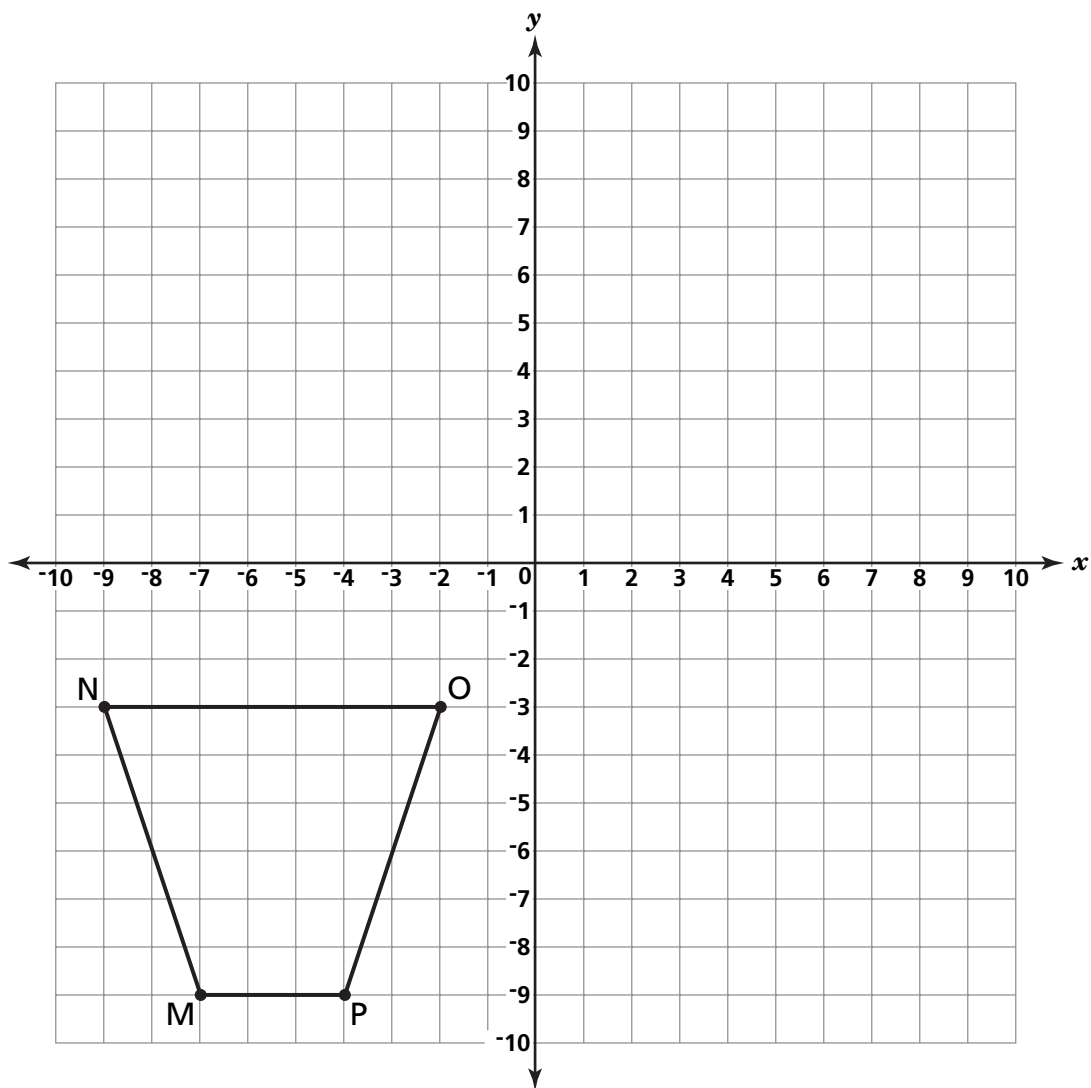
Two lines intersect at point B, as shown below.



[not drawn to scale]

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

44 Trapezoid MNOP is plotted on the grid below.



Part A

On the grid, draw the image of trapezoid MNOP after a reflection over the y -axis. Label the new trapezoid $M'N'O'P'$.

Part B

On the lines below, explain how you determined the location of point M'.

Go On

45

Shawna compares the prices to download music from two different web sites.

New Tunes \$5.00 sign-up fee \$0.75 per song	New Music \$9.00 sign-up fee \$0.50 per song
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Shawna wrote the equation below to determine when the two plans will cost the same. She uses s to represent the number of songs.

$$0.75s + 5 = 0.50s + 9$$

What number of songs must be downloaded for both music plans to cost the same?

Show your work.

Answer _____ songs

STOP

Place Student Label Here



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