

COMPONENT 4

The University of the State of New York

COMPONENT RETEST

IN

MATHEMATICS A

COMPONENT 4

MODULE 1

Wednesday, April 24, 2002 — 11:00 to 11:50 a.m., only

Print Your Name:

Print Your School's Name:

Print your name and the name of your school in the boxes above. Then turn to the last page of this booklet, which is the answer sheet for Part I. Fold the last page along the perforations and, slowly and carefully, tear off the answer sheet. Then fill in the heading.

Scrap paper is not permitted for any part of this examination, but you may use the blank spaces in this booklet as scrap paper. A perforated sheet of scrap graph paper is provided at the end of this booklet for any question for which graphing may be helpful but is not required. Any work done on this sheet of scrap graph paper will *not* be scored. All work should be written in pen, except graphs and drawings, which should be done in pencil.

This examination has two parts, with a total of nine questions. You must answer all questions in this examination. Write your answers to the Part I multiple-choice questions on the separate answer sheet. Write your answers to the questions in Part II directly in this booklet. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc.

When you have completed the examination, you must sign the statement printed at the end of the answer sheet, indicating that you had no unlawful knowledge of the questions or answers prior to the examination and that you have neither given nor received assistance in answering any of the questions during the examination. Your answer sheet cannot be accepted if you fail to sign this declaration.

Notice . . .

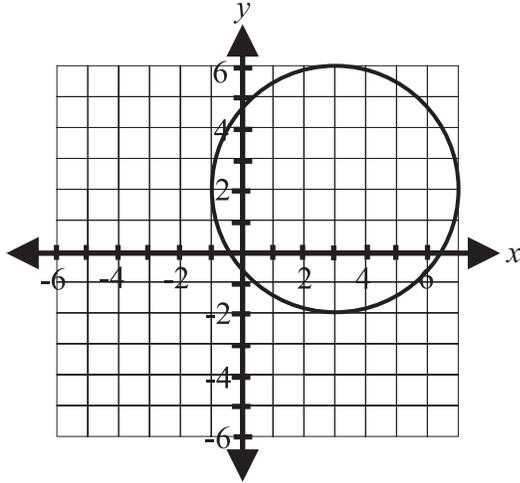
A minimum of a scientific calculator, a straightedge (ruler), and a compass must be available for your use while taking this examination.

DO NOT OPEN THIS TEST BOOKLET UNTIL THE SIGNAL IS GIVEN.

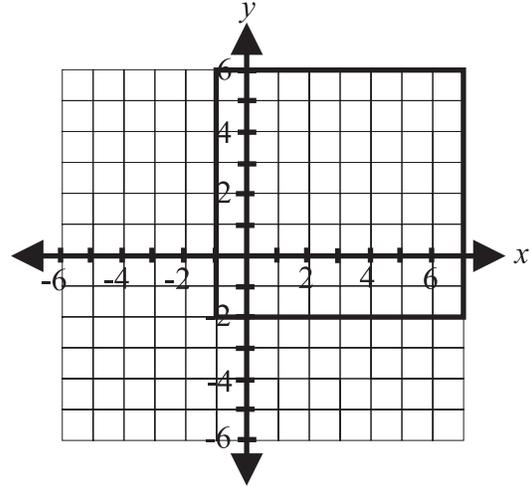
Part I

Answer all questions in this part. Each correct answer will receive 2 credits. No partial credit will be allowed. Record your answers in the spaces provided on the separate answer sheet. [12]

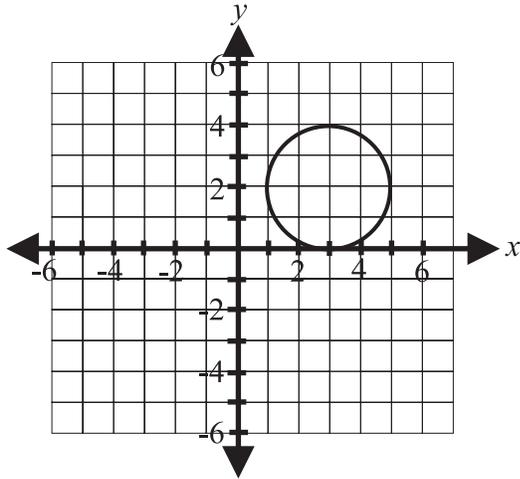
- 1 Which graph shows the locus of all points 4 units from point (3,2)?



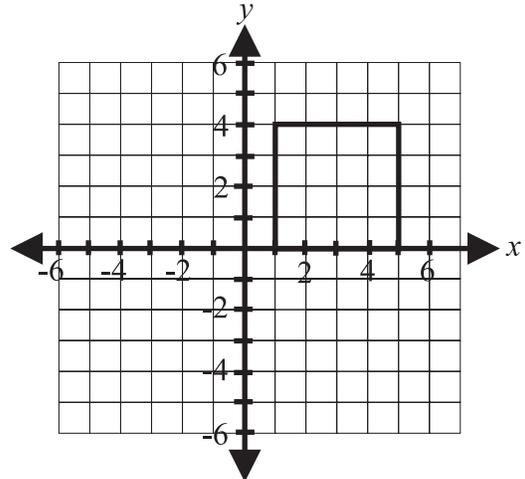
(1)



(3)



(2)

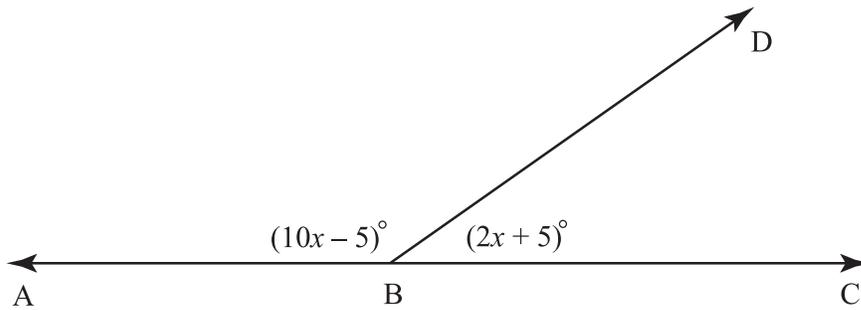


(4)

**Use this space
for computations.**

- 2 If \overline{AB} is perpendicular to \overline{CD} and \overline{EF} , which statement must be true?
- (1) \overline{AB} is parallel to \overline{EF} .
 - (2) \overline{CD} is parallel to \overline{EF} .
 - (3) \overline{CD} is perpendicular to \overline{EF} .
 - (4) The measure of \overline{CD} equals the measure of \overline{EF} .
- 3 In $\triangle ABC$, $m\angle A = 55$ and $m\angle B = 65$. Which statement about $\triangle ABC$ is true?
- (1) All the sides have different lengths and \overline{AB} is the longest side.
 - (2) All the sides have different lengths and \overline{AC} is the longest side.
 - (3) All the sides have different lengths and \overline{BC} is the longest side.
 - (4) Sides \overline{AC} and \overline{BC} have the same length and are longer than side \overline{AB} .
- 4 Elaine is enclosing a triangular-shaped garden with 3 pieces of fence. She has 2 pieces. One piece is 12 feet long, and the other piece is 8 feet long. She needs to buy a third piece of fence for the third side of the garden. The length, in feet, of the third side could be
- (1) 16
 - (2) 2
 - (3) 20
 - (4) 4

- 5 In the accompanying diagram, $m\angle ABD = 10x - 5$ and $m\angle CBD = 2x + 5$.



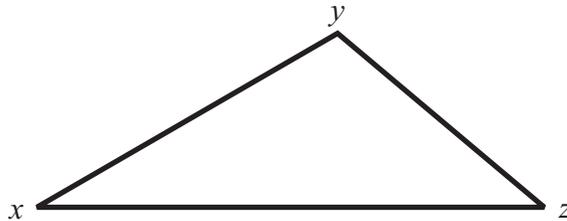
What is $m\angle ABD$?

- (1) 7.5
 - (2) 70.0
 - (3) 145.0
 - (4) 150.0
- 6 A triangle with two interior angles of 50° must be what kind of triangle?
- (1) equilateral
 - (2) isosceles
 - (3) right
 - (4) scalene

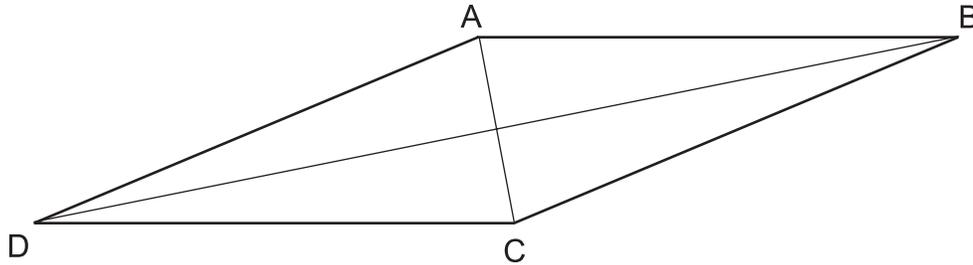
Part II

Answer all questions in this part. Each correct answer will receive 4 credits. Clearly indicate the necessary steps, including appropriate formula substitutions, diagrams, graphs, charts, etc. For all questions in this part, a correct numerical answer with no work shown will receive only 1 credit. [12]

- 7 In the accompanying diagram of $\triangle xyz$, the measure of the largest angle, y , is 80° more than the measure of the smallest angle, x . The measure of the remaining angle, z , is 10° more than the measure of the smallest angle. What are the measures of each of the angles of the triangle?

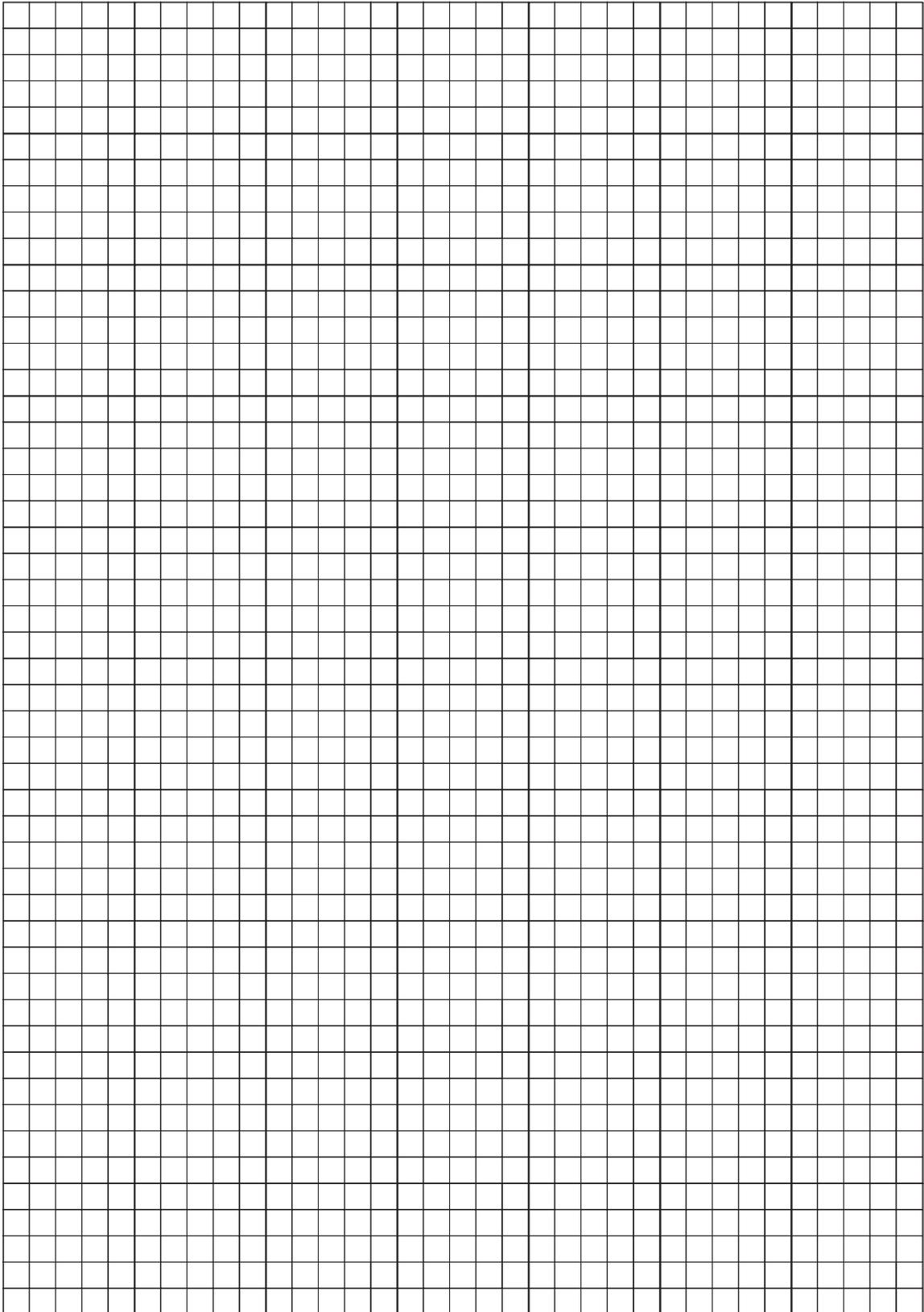


- 8 The diagonals of rhombus $ABCD$ shown in the accompanying diagram are 14 inches and 48 inches. What is the perimeter of the rhombus, in inches?

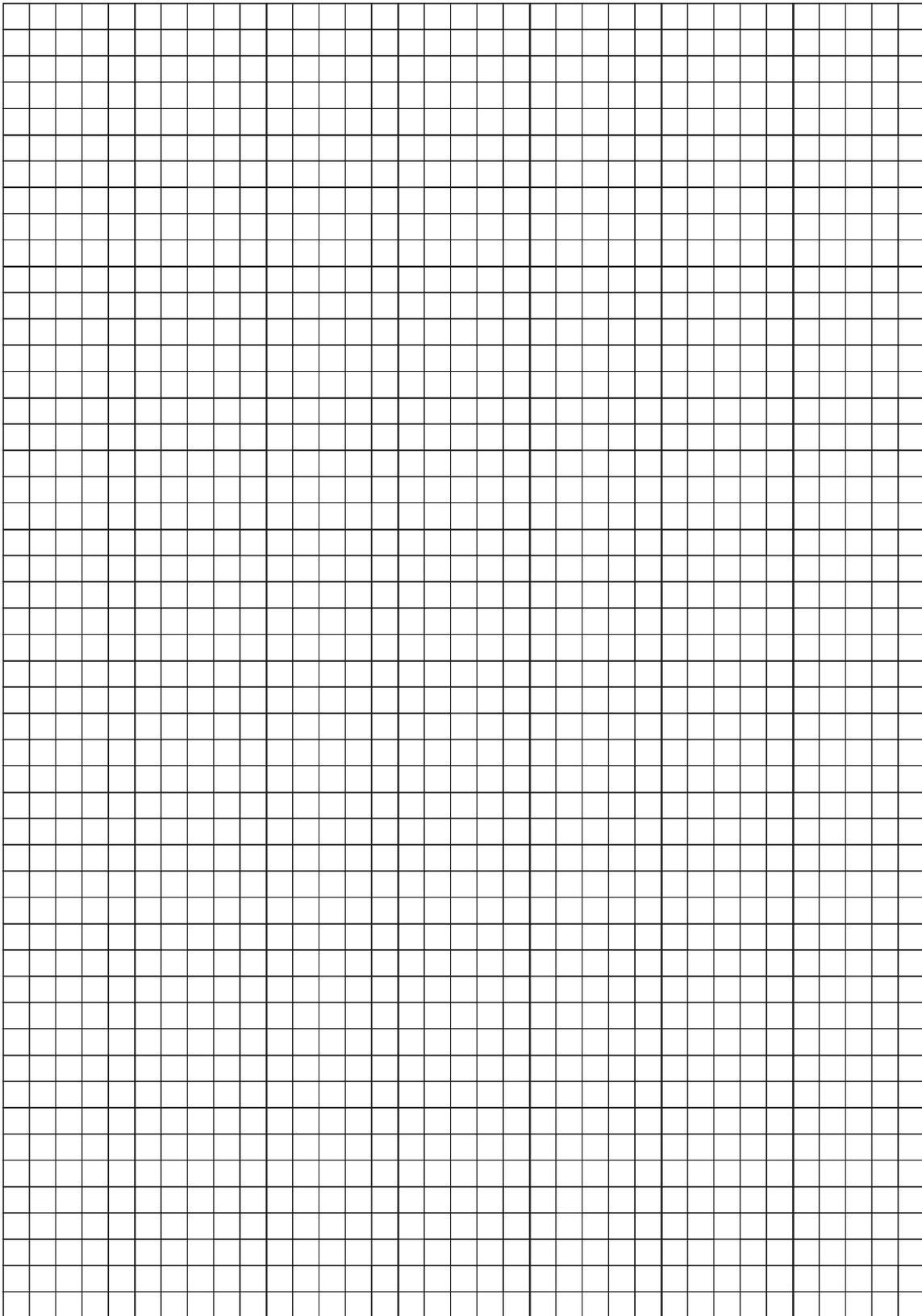


- 9 Using your compass and a straightedge, construct a right angle and label it ABC . Bisect $\angle ABC$. Show all hash marks.

Scrap Graph Paper - This sheet will *not* be scored.



Scrap Graph Paper - This sheet will *not* be scored.



The University of the State of New York

COMPONENT RETEST

MATHEMATICS A

COMPONENT 4 MODULE 1

Wednesday, April 24, 2002 — 11:00 to 11:50 a.m., only

ANSWER SHEET

Student Sex: Male Female

School Teacher

Your answers to Part I should be recorded on this answer sheet.

Part I

Answer all 6 questions in this part.

1 _____

2 _____

3 _____

4 _____

5 _____

6 _____

Score:

Your answers for Part II should be written in the test booklet.

The declaration below should be signed when you have completed the examination.

I do hereby affirm, at the close of this examination, that I had no unlawful knowledge of the questions or answers prior to the examination and that I have neither given nor received assistance in answering any of the questions during the examination.

Signature

