



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

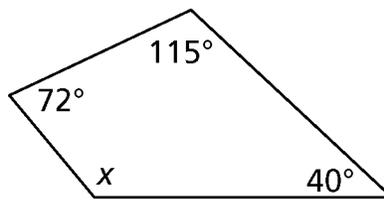
## **Mathematics Test**

Grade **7**

**2009 Scoring Guide**

**37**

What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

**Show your work.**

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

Check your answer.

**Show your work.**

**QUESTION 37**

**STRAND 3: GEOMETRY**

*Complete and Correct Response:*

- $115 + 72 + 40 + x = 360$   
 $227 + x = 360$   
 $- 227 \quad - 227$   
 $x = 133$

OR other valid process

**AND**

- 133 (degrees)

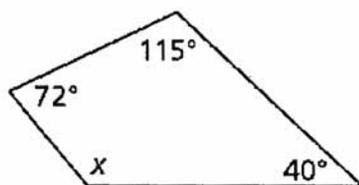
**AND**

- $115 + 72 + 40 + x = 360$   
 $115 + 72 + 40 + 133 = 360$   
 $360 = 360$

*Score Points:*

Apply 3-point holistic rubric.

37 What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

Show your work.

$$\begin{array}{r} 115^\circ \\ + 72^\circ \\ + 40^\circ \\ \hline 227^\circ \end{array} \qquad \begin{array}{r} 360^\circ \\ - 227^\circ \\ \hline 133^\circ \end{array}$$

Answer 133 degrees

Check your answer.

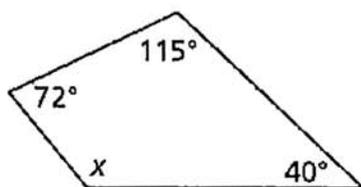
Show your work.

$227^\circ \rightarrow$  amount of  $115^\circ$ ,  $72^\circ$ , &  $40^\circ$   
 $133^\circ$   $\rightarrow$  amount of  $x$   
 $360^\circ \rightarrow$  how much a quadrilateral should come out to

This response is complete and correct.

Score Point 3

37 What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

Show your work.

$$\begin{array}{r} 115 \\ 72 \\ 40 \\ \hline 133 \end{array}$$

$360^\circ =$  a quadrilateral always equals  $360^\circ$

Answer 133 degrees

Check your answer.

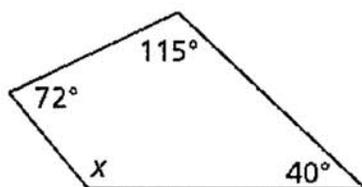
Show your work.

$$\begin{array}{r} 115 \\ 72 \\ 40 \\ \hline 227 \end{array} \quad \begin{array}{r} 360 \\ -227 \\ \hline 133 \end{array}$$

This response is complete and correct.

Score Point 3

37 What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

Show your work.

$$\begin{array}{r} 115 \\ 72 \\ + 40 \\ \hline 227 \end{array} \qquad \begin{array}{r} 51 \\ 500 \\ - 227 \\ \hline 133 \end{array}$$

Answer 133 degrees

Check your answer.

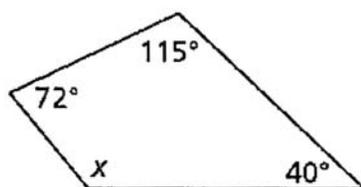
Show your work.

$$\begin{array}{r} 133 \\ 115 \\ 72 \\ + 40 \\ \hline 350 \end{array} \qquad \begin{array}{r} 51 \\ 500 \\ - 227 \\ \hline 133 \end{array} \qquad \begin{array}{r} 133 \\ 115 \\ 72 \\ + 40 \\ \hline 360 \end{array} \qquad \begin{array}{r} 115 \\ 72 \\ + 40 \\ \hline 227 \end{array}$$

This response addresses most aspects of the task using sound mathematical procedures; however, there is a calculation error in one of the checks.

Score Point 2

37 What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

$$\begin{array}{r} 115 \\ + 40 \\ + 72 \\ \hline 227 \end{array}$$

*Show your work.*

Answer 133 degrees

Check your answer.

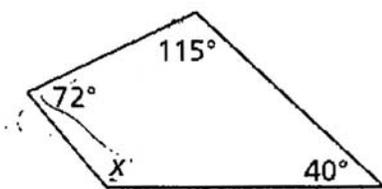
*Show your work.*

$$\begin{array}{r} 133 \\ 115 \\ 40 \\ 72 \\ \hline 360 \end{array}$$

This response is partially correct. Although valid work is shown to arrive at the correct answer, the final subtraction procedure must be shown in order to demonstrate a thorough understanding of the task.

Score Point 2

37 What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

Show your work.

$$\begin{array}{r} 72 \\ 115 \\ 40 \\ \hline 227 \\ \times 143 \\ \hline 310 \end{array}$$

Answer 143 degrees

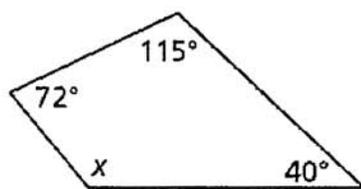
Check your answer.

Show your work.

This response exhibits many flaws, but it is not completely incorrect. Some valid work is demonstrated; however, a calculation error results in an incorrect answer.

Score Point 1

- 37 What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

Show your work.

$$\begin{array}{r} 115^\circ \\ 72^\circ \\ + 40^\circ \\ \hline 227^\circ \end{array}$$

Answer 227 degrees

Check your answer.

Show your work. ○

$$\begin{array}{r} 115^\circ \\ + 72^\circ \\ \hline 187 \end{array} \quad \begin{array}{r} 187^\circ \\ + 40^\circ \\ \hline 227^\circ \end{array}$$

This response is incorrect. Showing the addition of three given angles is not sufficient to demonstrate even a limited understanding of the task.

Score Point 0



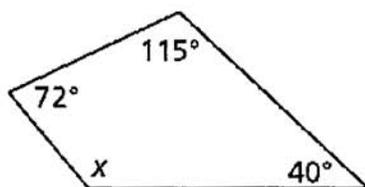
# ***New York State Testing Program***

## **Mathematics Test**

Grade **7**

**2009 Practice Set**

37 What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

Show your work.

$$\begin{array}{r} 40 \\ + 72 \\ + 115 \\ \hline 227 \end{array}$$

$$\begin{array}{r} 360 \\ - 227 \\ \hline 140 \end{array}$$

$$\begin{array}{r} 227 \\ + 140 \\ \hline 360 \end{array}$$

Answer 140 degrees

Check your answer.

Show your work.

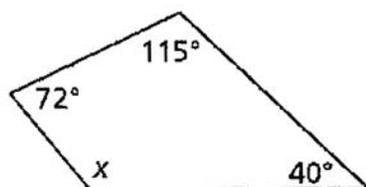
$$\begin{array}{r} 40 \\ + 72 \\ + 115 \\ \hline 227 \end{array}$$

$$\begin{array}{r} 360 \\ + 227 \\ \hline 140 \end{array}$$

$$x = 140$$

$$\begin{array}{r} 227 \\ + 140 \\ \hline 360 \end{array}$$

- 37 What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

*Show your work.*

$$\begin{aligned} 72 + 115 + 40 + 133 &= 360 \\ 360 &= 360 \end{aligned}$$

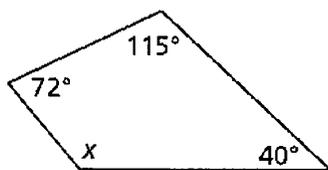
(133)

Answer 133 degrees

Check your answer.

*Show your work.*

**37** What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

*Show your work.*

Answer 133 degrees

Check your answer.

*Show your work.*

Degrees of quad  $\rightarrow 360^\circ$

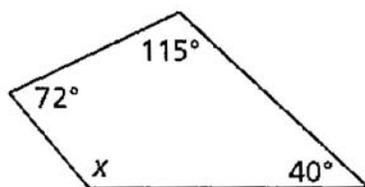
$$\begin{array}{r} 72^\circ \\ 115^\circ \\ 40^\circ \\ \hline 227^\circ \end{array}$$
$$\begin{array}{r} 360^\circ \\ -227^\circ \\ \hline 133^\circ \end{array}$$

check  $^\circ$

$$\begin{array}{r} 72^\circ \\ 115^\circ \\ 40^\circ \\ +133^\circ \\ \hline 360^\circ \end{array}$$

$\checkmark$

**37** What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

*Show your work.*

$$\begin{array}{r} 115 \\ 72 \\ + 40 \\ \hline 227 \end{array}$$

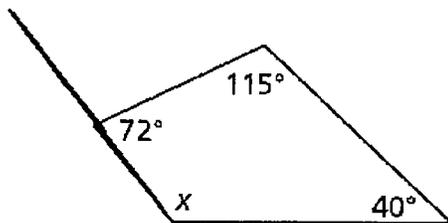
$$\begin{array}{r} \times 56.75 \\ 4 \overline{) 227.00} \\ \underline{- 20} \phantom{0} \\ 27 \phantom{0} \\ \underline{- 24} \phantom{0} \\ 30 \phantom{0} \\ \underline{- 28} \phantom{0} \\ 20 \phantom{0} \\ \underline{- 20} \\ 0 \end{array}$$

Answer 56.75 degrees

Check your answer.

*Show your work.*

**37** What is the measure of  $\angle x$  in the quadrilateral below?



[not drawn to scale]

Show your work.

$$\begin{array}{r} 72 \\ + 40 \\ + 115 \\ \hline 227 \\ + 133 \\ \hline 360 \end{array}$$

Answer 133 degrees

Check your answer.

Show your work.

$$\begin{array}{r} 360 \\ - 133 \\ \hline 227 \end{array} \quad \begin{array}{r} 227 \\ - 115 \\ \hline 112 \end{array} \quad \begin{array}{r} 112 \\ - 72 \\ \hline 40 \end{array}$$

# 7<sup>th</sup> GRADE MATHEMATICS

Name: \_\_\_\_\_

## PRACTICE SET ANSWER KEY

PS 1	(0-2)	
PS 2	(0-2)	
PS 3	(0-2)	
PS 4	(0-2)	
PS 5	(0-2)	
PS 6	(0-2)	
PS 7	(0-2)	
PS 8	(0-2)	
PS 9	(0-2)	
PS 10	(0-2)	
PS 11	(0-2)	
PS 12	(0-2)	
PS 13	(0-2)	
PS 14	(0-2)	
PS 15	(0-2)	
PS 16	(0-2)	
PS 17	(0-2)	
PS 18	(0-2)	
PS 19	(0-2)	
PS 20	(0-2)	

PS 21	(0-3)	
PS 22	(0-3)	
PS 23	(0-3)	
PS 24	(0-3)	
PS 25	(0-3)	
PS 26	(0-3)	
PS 27	(0-3)	
PS 28	(0-3)	
PS 29	(0-3)	
PS 30	(0-3)	
PS 31	(0-3)	
PS 32	(0-3)	
PS 33	(0-3)	
PS 34	(0-3)	
PS 35	(0-3)	
PS 36	(0-3)	
PS 37	(0-3)	
PS 38	(0-3)	
PS 39	(0-3)	
PS 40	(0-3)	