KSU TUSC MATH
$\pi + \sqrt{} - \infty$
AWARENESS WEEK

Measurement Contest
April 15–18, 2019

Name: _____

Address: _____

Telephone Number: _____

Email Address: _____

CONTEST PRIZE: The winner of this contest will receive a $200 tuition waiver to Kent State Tuscarawas.

RULES FOR THE MEASUREMENT CONTEST:

- This contest is open to all students currently registered at Kent State Tuscarawas.

- You must show all work. Entries submitted without showing work will be disqualified.

- In the event that more than one correct entry is received for this contest, a random drawing of all correct entries will be used to determine the winner.

- All winners will be notified by mail and will be listed on the Kent State Tuscarawas Math Awareness Week Website at

    http://www.personal.kent.edu/~bosikiew/MathWeek

- All entries should be submitted to either Dr. Beth Osikiewicz, B-115, or Dr. Jeff Osikiewicz, B-110, by 7:00 PM, Thursday, April 18, 2019. Problems may also be placed in our mailboxes located in the Faculty Support Office, B-120.

- If you have questions concerning the problems, please email one of the organizers at bosikiew@kent.edu or josikiew@kent.edu

- The organizers are not responsible for late or lost entries.

- The organizers reserve the right to modify the rules if necessary. The decision of the judges is final.

- The $200 tuition waiver can only be used at Kent State Tuscarawas during Summer 2019, Fall 2019, or Spring 2020. It **cannot** be exchanged for a gift certificate or cash, and **cannot** be transferred to another student.

## DUE BY THURSDAY, APRIL 18, 2019 AT 7:00 PM

Signature: _____

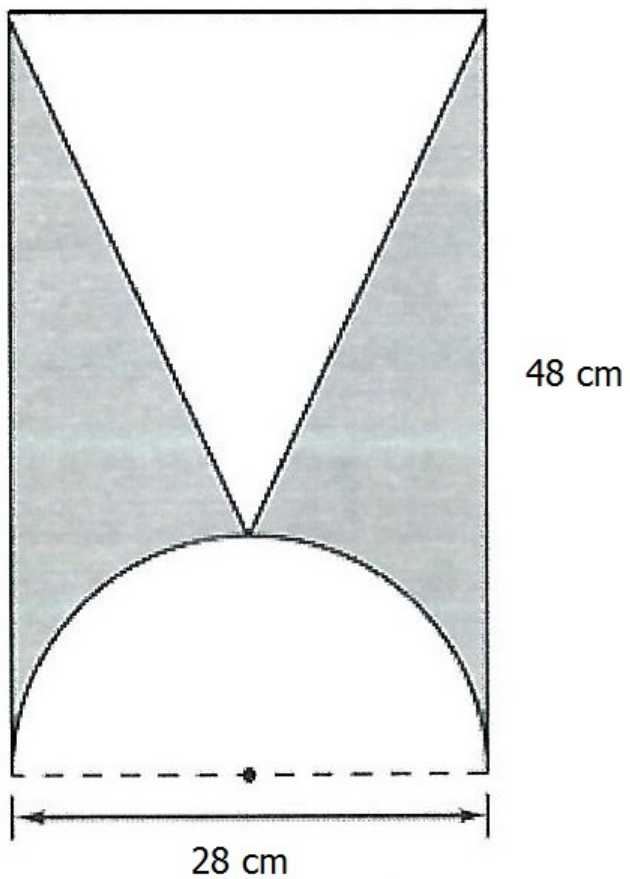**OVER** ⇒

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Directions: This contest has **three parts**. All answers must be completely simplified and **EXACT**. That is, your answer may **NOT** contain any decimals. For example, write $3\sqrt{2}$ (NOT 4.2426). Also, write 5π (NOT 15.7079). Decimal answers will NOT be accepted. Please circle your final answer. All figures are not drawn to scale. You must show all work.

PART I. Find the **AREA** of the shaded region.

5

4
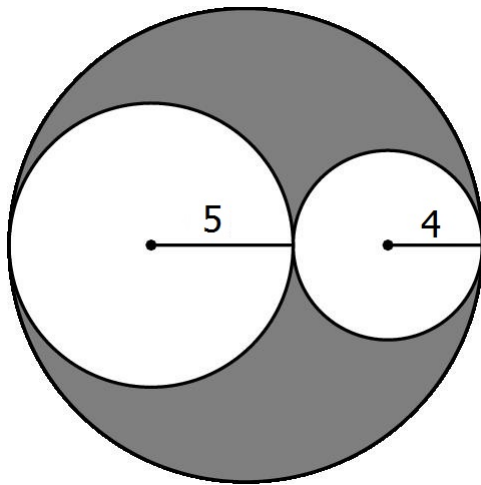
PART II. Find the **AREA** of the shaded region.

48 cm

28 cm

PART III. Consider the following figure. All angles are right angles. Find the **AREA** of the figure.

20 in

16 in

8 in

24 in

16 in

4 in

4 in →

40 in

12 in

8 in

48 in