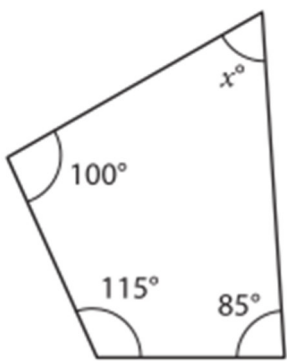


# TIMSS 2019 – Restricted Use Items –Geometry

Benchmark 2

Applying



What is the value of  $x$  ?

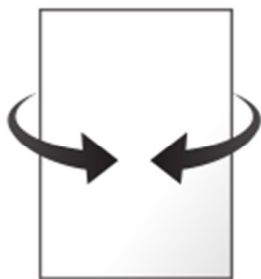
$x =$  \_\_\_\_\_

Benchmark 3

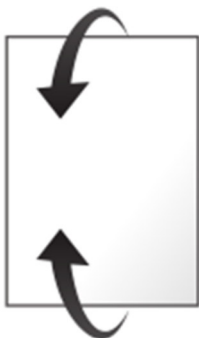
Reasoning

Soh and Ben have identical rectangular pieces of paper. They use different ways to roll their papers into cylinders so that the opposite sides of the paper touch as shown below.

Soh's Method



Ben's Method



Compare the properties of the two cylinders.

Use  $>$ ,  $<$ , or  $=$  for each.

**Height**

Soh's cylinder \_\_\_\_\_ Ben's cylinder

**Diameter**

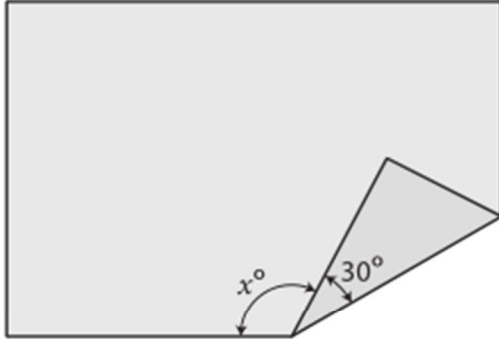
Soh's cylinder \_\_\_\_\_ Ben's cylinder

**Surface Area (open ends)**

Soh's cylinder \_\_\_\_\_ Ben's cylinder

Benchmark 4

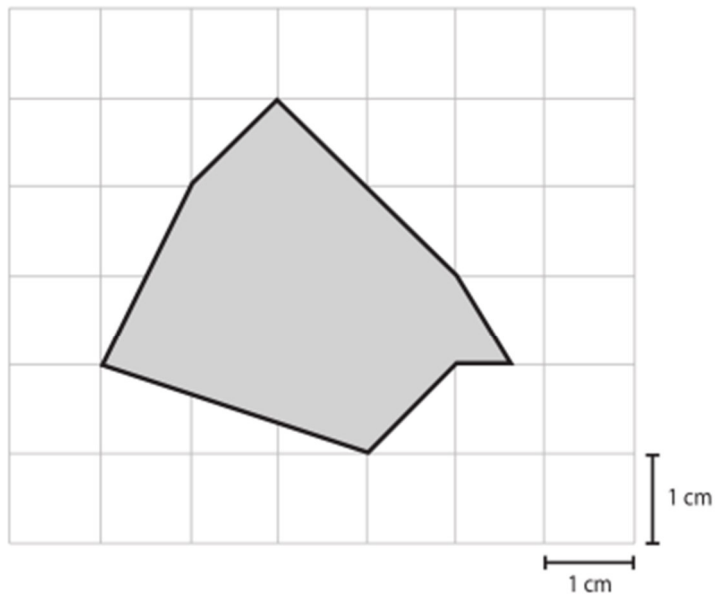
Reasoning



A rectangular piece of paper is folded at one corner, as shown above. What is the value of  $x$  ?

Answer: \_\_\_\_\_

Applying

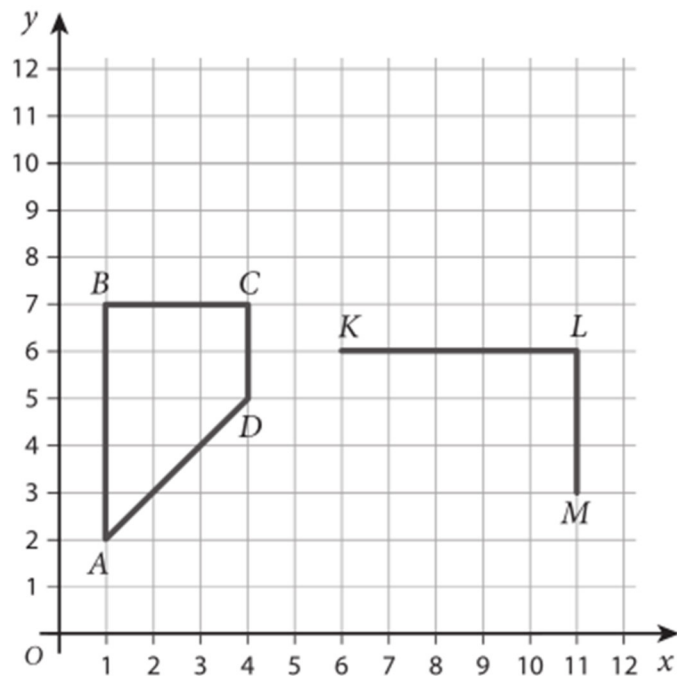


Which is the best estimate of the shaded area?

- (A)  $6 \text{ cm}^2$
- (B)  $8 \text{ cm}^2$
- (C)  $10 \text{ cm}^2$
- (D)  $12 \text{ cm}^2$

Reasoning

Woo drew trapezoid  $ABCD$ . He then started drawing a **congruent** trapezoid  $KLMN$ .



What will be the coordinates of point  $N$  when Woo completes the figure?

Answer: ( \_\_\_\_\_, \_\_\_\_\_ )