

Math Kangaroo Level 5-6

## Webinar 10: Combining Tools



Warm Up



Instruction



Combining  
Tools  
Problems



Wrap Up



Bonus Slides

# Do you remember the tools?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.



# Do you remember the tools?

1. Patterns
2. Algebraic Thinking
3. Ratio & Proportion
4. Multiples, Factors, and Divisibility
5. Time, Clocks, and Calendars
6. 2D Geometry
7. 3D Geometry
8. Hands On

# Warm up

MK 1998 #15

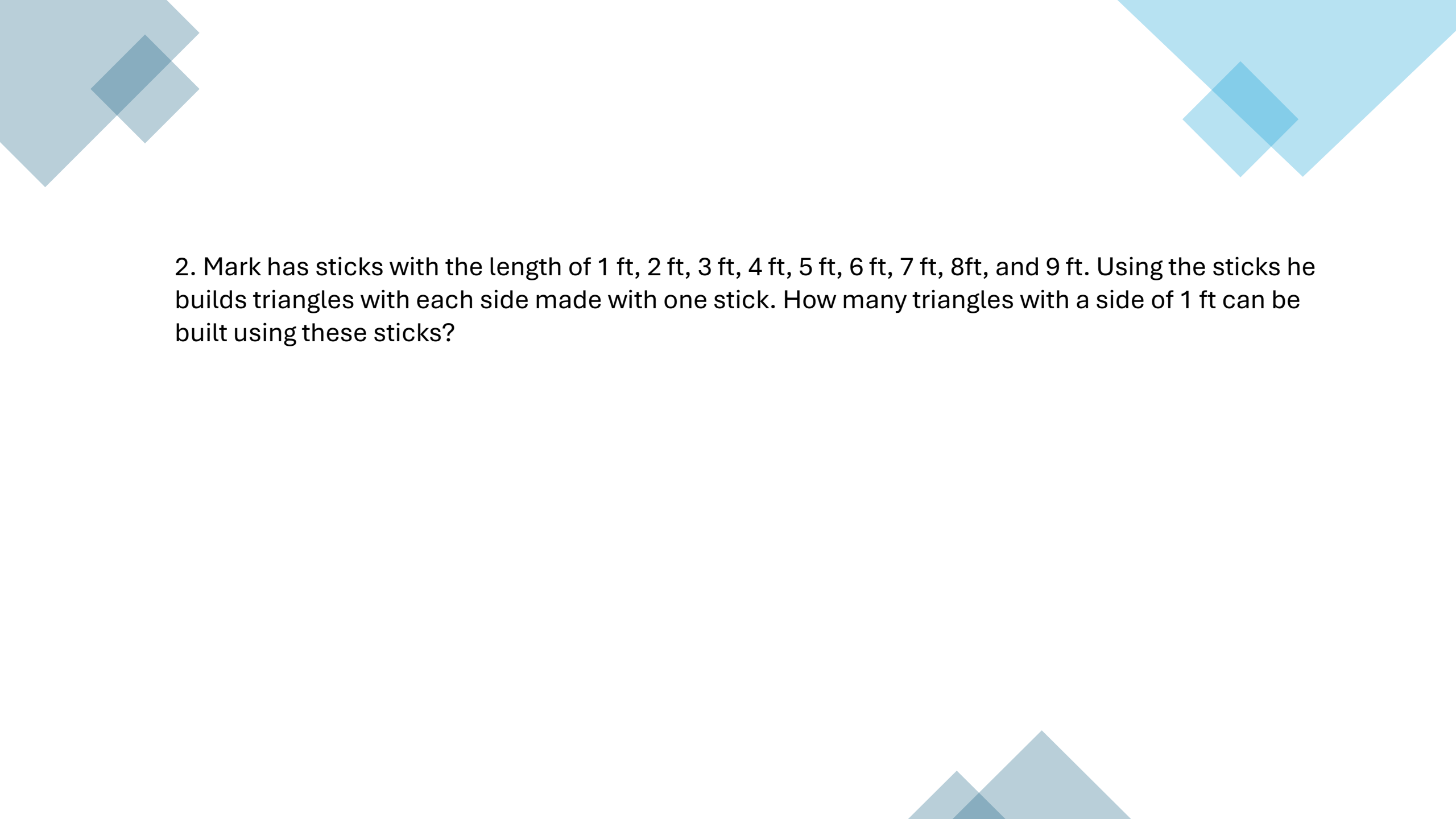
There are stools and chairs in the room. Each stool has 3 legs and each chair has 4 legs. Altogether there are 17 legs. How many chairs are there in the room?

Combining



MK 2000 #14

1. How long will it take to print one million forms, if it takes 1 minute to print 100 of these forms?

The image features decorative geometric shapes in the corners. The top-left corner has two overlapping squares, one light blue and one medium blue. The top-right corner has two overlapping squares, one light blue and one medium blue. The bottom-right corner has two overlapping squares, one light blue and one medium blue.

2. Mark has sticks with the length of 1 ft, 2 ft, 3 ft, 4 ft, 5 ft, 6 ft, 7 ft, 8ft, and 9 ft. Using the sticks he builds triangles with each side made with one stick. How many triangles with a side of 1 ft can be built using these sticks?

MK 2004 #18

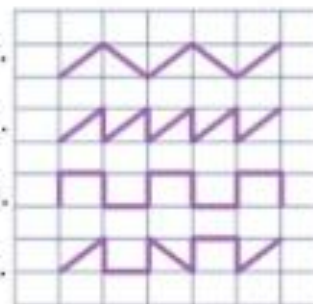
3. Four snails, Fin, Pin, Rin, and Tin are moving on identical rectangular tiles. The shape and lengths of each snail's path is shown below. How many decimeters has snail Tin gone?

Snail Fin has gone 25 dm.

Snail Pin has gone 37 dm.

Snail Rin has gone 38 dm.

Snail Tin has gone ? dm.



MK 2005 #24

4. A wooden cube with the length of its sides equal to 3 ft was painted with 0.25 gallon of paint. The cube was then cut up into unit cubes (with a side length of 1 ft). How much paint is needed to paint the unpainted sides of the unit cubes?



MK 2009 #15

5. The numbers 1 to 8 are written on eight cards, a different number on each card. The cards are divided into groups A and B in such a way that the sum of the numbers on the cards in group A is equal to the sum of the numbers on the cards in group B. If we know that group A contains only three cards, then we know for sure that:
- (A) exactly three cards in group B have odd numbers on them.
  - (B) four of the cards in group B have even numbers on them.
  - (C) the card with 1 is not in group B.
  - (D) the card with 2 is in group B.
  - (E) the card with 5 is in group B.

MK 2016 #20

6. The perimeter of the rectangle ABCD is 30 cm. Three other rectangles are placed so that their centers are at the points A, B and D (see the figure). The sum of their perimeters is 20 cm. What is the total length of the thick black line?

