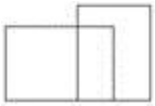
Math Kangaroo 2014 Sample Questions - Levels 7 & 8

1. Each year, the date of the Kangaroo competition is the third Thursday of March. What is the latest possible date of the competition in any year?

A) March 14th B) March 15th C) March 20th D) March 21st E) March 22nd

2. How many quadrilaterals of any size are shown in the figure below?

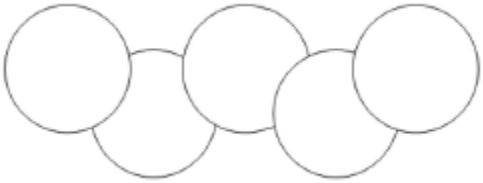


A) 0 B) 1 C) 2 D) 4 E) 5

11. Jack has a piano lesson twice a week and Hannah has a piano lesson every other week. In a given quarter, Jack has 15 more lessons than Hannah. How many weeks long is their quarter?

A) 30 B) 25 C) 20 D) 15 E) 10

12. In the diagram, the area of each circle is 1 cm2. The area common to two overlapping circles is 1/8 cm2. What is the area of the region covered by the five circles shown?

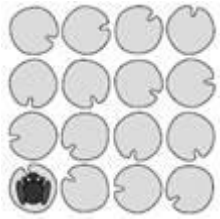


A) 4 cm2 B) 9/2 cm2 C) 35/8 cm2 D) 39/8 cm2 E) 19/4 cm2

28. Several different positive integers are written on the board. Exactly two of them are divisible by 2 and exactly 13 of them are divisible by 13. Let *M* be the greatest of these numbers. What is the smallest possible value of *M*?

A) 169 B) 260 C) 273 D) 299 E) 325

29. On a pond there are 16 water lily leaves in a 4 by 4 pattern as shown. A frog sits on a leaf in one of the corners. It then jumps from one leaf to another either horizontally or vertically. The frog always jumps over at least one leaf and never lands on the same leaf twice. What is the greatest number of leaves (including the one it is sitting on) that the frog can reach?



A) 16 B) 15 C) 14 D) 13 E) 12