PRACTICE – III

Grade – 6

1) How many zeroes does the product :
1 x 2 x 3 x …….x 2017 end with ?

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2) The radius of the traffic sign is 24 cm. Each of the dark piece is a quarter of a circle. The total area of the 4 quarters equals one-third of the light part of the sign. What is the radius of the circle formed by the 4 quarters?



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3) There were 16 teams in a volleyball league. Each team played exactly one game against each other team. For each game, the winning team got 1 point and the losing team got 0 points. There were no draws. After all games, the team scores form a sequence whose any consecutive terms have the same difference. How many points did the team in the second last place receive?

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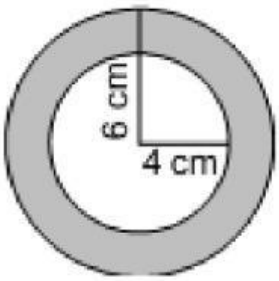
LIVEWORKSHEETS

4) The brothers Tom and Jason gave truthful answers to the question about the number of members their chess club has. Tom said: “All the members of our club, except five girls, are boys.” Jason said: “Every six members always includes at least four girls.” What is the least number of members in their chess club?

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5) Ahmad has two pendants made up of the same material. They are equally thick and weigh the same. One of them has a shape of a grey "annulus" formed by two circles with radius 6 cm and 4 cm (see the diagram). The second has the shape of a solid circle. What is the square of the radius (i.e. radius × radius) of the second pendant?

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6) Let the operation $*$ be defined by $a * b = ab - a - b + 2$. If $7 * b = 13$, what is the value of b?

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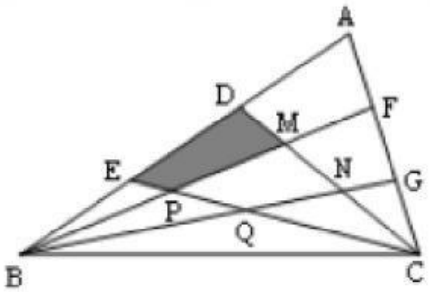
LIVEWORKSHEETS

7) A game consists of black and white pieces. The number of black pieces is 5 more than 3 times the white pieces. Seven white and 15 black pieces are removed each round. After several rounds, there are 3 white and 56 black pieces left. How many pieces were there in the beginning?

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8) As shown in the figure, the area of △ABC is 42. Points D and E divide the side AB into 3 equal parts, while F and G divide AC into 3 equal parts. CD intersects BF and BG at M and N, respectively. CE intersects BF and BG at P and Q, respectively. What is the area of the quadrilateral EPMD?

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9) Four players compete in a tournament. Each player plays exactly two games against every other player. In each game, the winning player earns 2 points and the losing player earns 0 points; if the game results in a draw (tie), each player earns 1 point. What is the minimum possible number of points that a player needs to earn in order to guarantee that he/she will be the champion (i.e. he/she has more points than every other player)

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LIVEWORKSHEETS

10) Let us call a whole number "lucky" if its digits can be divided into two groups so that the sum of the digits in each group is the same. For example, 34175 is lucky because $3 + 7 = 4 + 1 + 5$. Find the smallest 4-digit lucky number, whose neighbour is also a lucky number (i.e. the whole number next to it is a lucky number as well).

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LIVEWORKSHEETS