16.   The denominator of a fraction is 10 greater than its numerator. If the numerator and denominator are both increased by 15, the fraction becomes $\dfrac{14}{19}$ after reduction to lowest terms. What is the original fraction?

17.   Emma needs 6 hours to type a report and Fred needs 10 hours to type the same report. Emma typed a portion of the report for a few hours. Then, Frank finished typing the report. They, together, worked a total of 7 hours. How many hours did Emma work on this report? Provide your answer as a fraction in lowest terms.

18.   The figure below consists of 4 quarter circles of radius 2.
What area is enclosed in the figure rounded to the nearest whole number?
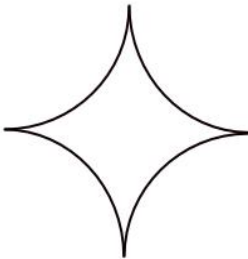
19.   If a car dealership gives a 5% discount on a car, the dealership will make a $5250 profit on the car. If, instead it will give a 25% discount, the dealership will lose $1750. How much did the dealership pay for the car (in dollars)?

20.   What is the sum of the average of all positive double digit numbers and the average of all positive 3-digit numbers?

21. Four married couples meet at a party and decide to dance so that they will all dance at the same time but no husband is allowed to dance with his own wife. In how many different ways can it be done? _____ 21

22. When the swimming pool is 25% full, it takes 2250 cubic metres (m^3) to fill it up from that point. When it is full, it can be emptied at a rate of $120\frac{m^3}{h}$. How many hours does it take to empty an 80% full pool? _____ (h) 22

25. $N > 0$ satisfies that $\frac{N}{7}$ is a perfect cube and $N \times 2016$ is a perfect square. What is the smallest possible value of N? _____ 25

26. All angles of a convex polygon are smaller than 180 degrees. The measures (in degrees) of 4 of the angles of a convex pentagon are N, $2N$, $3N$, and $4N$, where N is an integer. If M is the measure of the fifth angle, and if it satisfies $2M = KN$, where K is a whole number, what is the value of M (in degrees)? _____ (°) 26

4. Consider the following sequence: 1 (sum of the factors of 1), 3 (sum of the factors of 2), 4 (sum of the factors of 3), 7 (sum of the factors of 4), 6 (sum of the factors of 5), ... What is the sum of all the terms that each has value less than 15? _____ 4