

DIVISIBILITY - EXERCISES AND PROBLEMS

- 1) Determine if the following statements are true or false, and why.
 - a) 13640 is a multiple of 5, 10 and 11
 - b) 7 is a divisor of 63
 - c) 9 is a divisor of 42
 - d) 17 is a multiple of 51
 - e) 165 is a multiple of 3 and 5
 - f) 11 is a divisor of 45694
 - g) 10 is a multiple of 200
 - h) 13 is a divisor of 27

- 2) Determine if the next statements are true or false and why.
 - a) 165 is a multiple of 3 and 5
 - b) 11 is a divisor of 45694
 - c) 10 is a multiple of 200
 - d) 13 is a divisor of 27

- 3) Work out all the divisors of the numbers 24, 52 and 128

- 4) Factor out the numbers 72, 31, 300 and 625

- 5) Factor out the numbers 2000, 2187 and 15925

- 6) Determine if the numbers 150, 225, 7568, 9042, 35420 and 91 are divisible by 2, 3, 5, 10 and 11. Are any of them prime numbers? Why?

- 7) Work out
 - a) $\text{lcm}(15, 40) =$
 - b) $\text{lcm}(16, 64) =$
 - c) $\text{hcf}(100, 250) =$
 - d) $\text{hcf}(98, 45) =$
 - f) $\text{lcm}(14, 18, 63) =$
 - g) $\text{hcf}(36, 72, 108) =$

- 8) Find the LCM of 12 and 15 and the LCM of 14, 18 and 63

- 9) Find the HCF of 50 and 125 and the HCF of 72 and 108

- 10) Write all the possible ways to distribute 40 T-shirts in boxes so all the boxes are identical.

- 11) A NGO wants to deliver goods amongst families with problems due to the crisis. They have 600 bricks of milk, 200 bottles of olive oil and 350 kgs of cereal. How many boxes can they

make so they have as many goods as possible and they are all identical? What's the composition of each box?

12) I take a bus that stops at the bus stop every eight minutes, while my cousin takes another bus that stops every twelve minutes at the same place. If we both took the bus this morning at eight o'clock, what's the next time the buses will coincide?

13) Michael just bought 1 package of 12 glue sticks. He also bought 1 package of 9 markers. He wants to use all of the glue sticks and markers to create identical sets of office supplies for his friends. What is the greatest number of identical sets Michael can make using all the supplies? What's the composition of each set?

14) At a track and field competition, there are 40 sprinters and 36 long-distance runners. Michael has to assign all of the athletes to teams. He wants to make sure all of the teams have the same number of sprinters and the same number of long-distance runners. What is the greatest number of teams Michael can form? What's the composition of each team?

15) During the summer months, one ice cream truck visits Jeannette's neighborhood every 4 days and another ice cream truck visits her neighborhood every 5 days. If both trucks visited today, when is the next time both trucks will visit on the same day?

16) Mrs. Hernandez waters one of her plants every 10 days and another plant every 14 days. If she waters both plants today, when is the next time both plants will be watered on the same day?

17) Christopher is organizing a baseball league, and he needs to purchase jerseys and visors for the players. Jerseys come in sets of 15, and visors come in sets of 27. If Christopher wants to buy the same number of jerseys and visors, what is the minimum number of jerseys or visors he will have to purchase?

18) There are thirty-four students in 1stA. Their teacher decided to place them in rows with three students each and she realized that one of the students had to be alone. Why? Would they all have a partner if the rows had two students? And if she places four students in each row? What is the distribution of the classroom now?