ELMACON Preparation Session

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1   Problem Set C

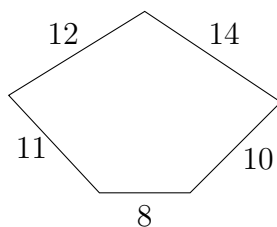1. How many numbers less than 100 are divisible by either 3 or 5?

    1. _____

2. I have 10 quarters in my pocket. I have 20% more dimes than quarters and 25% less nickels than dimes. What is the value of the coins in my pocket.

    2. _____

3. The sum of $\frac{1}{2} + \frac{1}{3} + \cdots \frac{1}{11}$ is how much less than the sum $\frac{1}{1} + \frac{1}{2} + \frac{1}{3} + \cdots + \frac{1}{10}$?
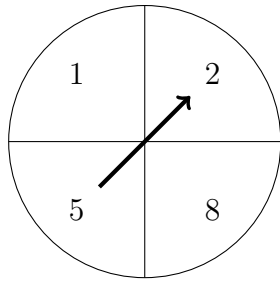
    3. _____

4. Find the average lengths of the sides of the pentagon

    4. _____

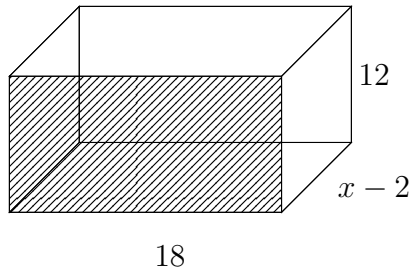5. A spinner is spun 2 times. What is the probability that the sum of the two numbers is prime?

6. Bob is on the basketball team along with 5 other boys. A basketball team has 5 starting players. How many ways can 5 starting players be selected if Bob must be a starter?

7. I am a whole number. The product of two less than me and two more than me is 165, What number am I?

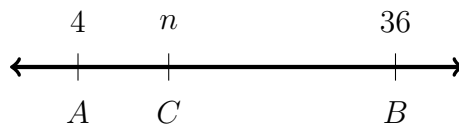8. The area of the front of the box is 6 times the area of the bottom of the box. What is the volume of the box

9. What value of n makes AC one fourth of AB?

10. Bob scored $84, 90, 81$ and 93 on his four tests. Bob was caught cheating on his first test and his score was changed to zero. How much did his average drop?

10. _____

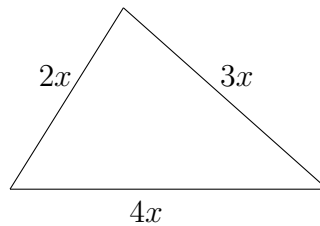11. How many perfect squares are there between 100 and 200

11. _____

12. What is the least common multiple of 21 and 30?

12. _____

13. What is the reciprocal of 4.3 to the nearest thousandth?

13. _____

14. If the perimeter is 54, what is the value of x?
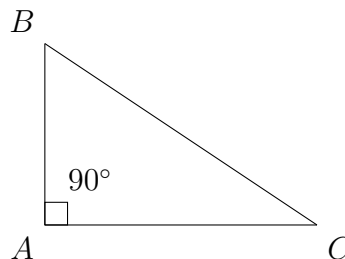

14. _____

15. Bob has 80 baseball cards. He sold $\frac{1}{5}$ of them and then gave away $\frac{1}{4}$ of the ones that were left. How many cards does Bob now have?
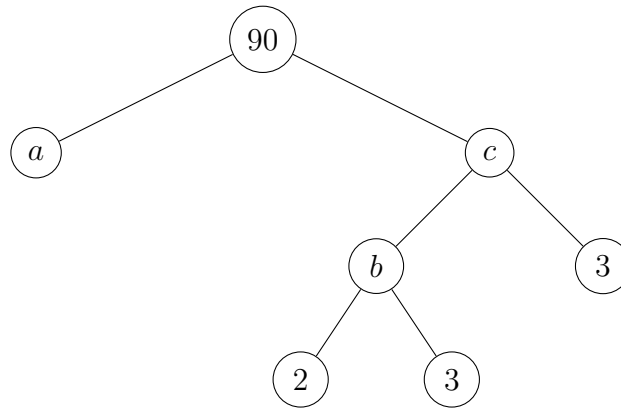
15. _____

16.

$$\angle A = 90°$$
$$\angle B = \frac{2}{3} of \angle A$$
$$\angle C = ?$$

3

17. Find the value of $a + b + c$ for the prime factorization tree.

17. _____

18. What is 6 days after the day before yesterday if tomorrow is Friday?

18. _____

19. Elvis wants to be fair dividing up the candy he brought to school between Jerry Lee and Little Richard. The problem is that the candy bars are not divided the same way. $1\frac{1}{2}$ pieces of Chocolate Fantasy is the same as $\frac{3}{4}$ piece of Luscious Liplickers. How many Luscious Liplickers would equal 12 pieces of Chocolate Fantasy?

19. _____