2015 SECME Regional Competition
Mathematics Contest
Elementary School

1. 6947+5319+238+52+3=?

2. Paul spent 2 hours and 45 minutes working on homework. If he started at 5:20PM, what time was it when he finished?

3. Sally's math course has four equally weighted exams this marking period. If she has earned a 93%, an 82%, and a 92% on the first three exams, what is the minimum score she must she earn on the last exam to have a 90% exam average?

4. Joe is twice as old as Bob, and Bob is five years older than Lee. If the sum of the ages of the three boys is 35 years, how old is Lee now?

5. If $\dfrac{1}{6} - \dfrac{X}{30} = \dfrac{1}{10}$, what is the value of X?

6. Evan needs to give a customer 92 cents change from his cash register that contains only quarters, dimes, nickels, and pennies. What is the smallest number of coins he can use to give the correct change?

7. $124.783 + 63.41 - 13.857 - 7.9425 = ?$

8. Jack casts a 9 foot shadow when he stands 18 feet away from an 18 foot tall lamppost. How tall is Jack?

9. Use the following clues to determine the last names of each of the four people.

		Last Names			
		Griffiths	Kilmer	Aberdeen	Nicholson
First Names	Angela				
	Grant				
	Nathaniel				
	Kristin				

a) No one has a last name that starts with the same letter as his or her first name.

b) Each person's last name is at least as long as his or her first name.

c) Angela's last name has 9 letters.

d) Kristin's last name comes before her first name alphabetically.

10. Four compounds are composed of two elements: element A and element B. Which of the following compounds has the largest percentage of element B?

a) ABAABB

b) BAABAA

c) BABAB

d) ABBA

11. A roller coaster has three seats and there are five children who want to ride it. How many different combinations of three children could be chosen to ride the ride?
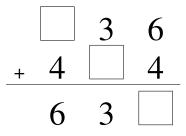
12. What is the difference between 12 feet 6 inches and 4 feet 9 inches?

13. Numbers are arranged under the letters in the following pattern:

A	B	C	D	E	F	G
1	2	3	4	5	6	7
8	9	10	11	12	…	…

Under what letter will number 256 appear?

14. The following addition problem was marked correct, but some of the numbers have been lost. Fill in the correct numbers below.

$$
\begin{array}{ccc}
 & \square & 3 & 6 \\
+ & 4 & \square & 4 \\
\hline
 & 6 & 3 & \square \\
\end{array}
$$

15. Jenny is planning her schedule for next year. She has five different classes she can take, three different clubs she can join, and two different sports teams she can play with. How many different schedules can she choose if she has to take three classes, join two clubs, and play one sport?

16. It takes Mark and Tim four hours to mow the soccer pitch together. It would have taken Mark 6 hours to mow it by himself. How long would it take Tim to mow the pitch alone?

17. What is the remainder of $42780 \div 321$

18. A set of 12 pool balls that appear identical are painted with the numbers 1-12. One of the balls is slightly heavier than the others. The balls are weighed in groups with the following results:

- The combined weight of balls 1-6 is larger than the combined weight of balls 7-12.
- The combined weight of balls 1-3 is smaller than the combined weight of balls 4-6.
- The combined weight of balls 7-9 is equal to the combined weight of balls 10-12.
- The weight of ball 1 is equal to the weight of ball 2.
- The weight of ball 4 is equal to the weight of ball 5.
- The weight of ball 7 is equal to the weight of ball 8.
- The weight of ball 10 is equal to the weight of ball 11.

Which ball is heaviest?

19. What number is in the one's digit of $5 \times 7 \times 3 \times 5 \times 2 \times 7 \times 5$?

20. $\left(\dfrac{4}{8} \div \dfrac{1}{20}\right) \times \left(\dfrac{1}{10} \div \dfrac{1}{2}\right) \div \left(\dfrac{1}{18} \div \dfrac{2}{3}\right)$

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Key:

1. 12559

2. 8:05 PM

3. 93%

4. 5 years old

5. $X = 2$

6. 7 coins: 3 quarters, 1 dime, 1 nickel, and 2 pennies.

7. 166.3935

8. 6 feet

9. Angela Nicholson, Grant Kilmer, Nathaniel Griffiths, and Kristin Aberdeen

10. c has the largest. Both a and d are only 50% B, and b is 1/3, or 33% B.

11. 10 = 5 choose 3

12. 7 feet 9 in or 93 in

13. D since 256 /7 has a remainder of 4.

14. 136+494=630

15. (5 choose 3) x (3 choose 2) x (2 choose 1) = 10 x 3 x 2 = 60

16. 12 hours

17. 87

18. Ball 6 is heaviest.

19. 0

20. 24