

Time: 6 minutes

1. If $*$ represents an operation defined by $a * b = a^b + b$,
find $(1 * 2) * 3$.

1. _____

2. What is the maximum number of points of intersection
when two distinct circles and three distinct lines
intersect each other?

2. _____

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3. If the seven-digit number $854n526$ is divisible by 11, what is n ?

3. _____

4. A television's price was discounted 40% and then slashed another 40% during a liquidation sale. By what percent has the original price been reduced?

4. _____

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5. A survey was conducted regarding the number of automotive vehicles owned per household. The results of the survey are as follows:

<u>Vehicles</u>	<u>Households</u>
0	3
1	9
2	10
3	2
4	1

Express the average number of vehicles per household as a decimal rounded to the nearest tenth.

5. _____

6. In a certain school, $\frac{2}{3}$ of the faculty are women, $\frac{1}{4}$ of the men on the faculty are married and the other 9 men are bachelors. How many faculty members are there?

6. _____

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7. Two bicycle racers cross the starting line on a circular track at 12:15 p.m. One cyclist can complete a lap in 12 minutes. The other completes a lap every 16 minutes. Assuming that their speeds remain constant, what is the next time they cross the starting line together?

7. _____

8. The sum of a whole number and the next four consecutive whole numbers is 105. Find the result when the mean of the numbers is subtracted from the median of the numbers.

8. _____