

- Using division we get that $14469 \div 21 = \boxed{689}$.
- If Eric's garden contains only roses and tulips, and he has twice as many roses as tulips in his garden, we can set up an equation $2x + x = 63$. Then, we find that $x = 21$, which is the amount of tulips in the garden. The amount of roses is twice that of tulips, so the amount of roses would be $\boxed{42}$.
- In order to find the sixth and final test result, we can start by calculating the total needed from all six tests to get a 95% average. In order to do that, we can multiply 95×6 which equals 570. Since we already have the first 5 test results, we can subtract them from the needed total to find the final test score, which is a 105. Since the question is asking for the amount of extra credit percentage points awarded by the teacher, the answer would be $105 - 100$ because we already know Dylan got a 100. Therefore, the final answer would be $\boxed{5}$.
- In this order of operations question, we would start by solving the innermost parentheses, which is $15 \times 8 + 69 = 189$. Next, we would solve the second innermost parentheses, which is $189 \times 3 + 48 = 615$. Then, we would compute the final parentheses, which would be to divide 615 by 5, which gives us 123. Finally, we evaluate the final step and get $123 \times 4 + 32311$, which gives us the answer of $\boxed{32803}$.
- To solve this question, we would count backwards in time. 30 minutes to drive to school would mean he would have to start at 7:00 A.M. Another 10 minutes to eat breakfast would mean he would have to start at 6:50 A.M. Finally, 15 minutes to brush his teeth and shower would mean he would have to start at $\boxed{6:35 \text{ A.M.}}$.
- Since there are three face cards per suit and there are two red suits, there would be a total of 6 face cards in the two red suits of 13 cards making the probability of picking a red face card out of the 2 suits of red cards $\boxed{\frac{3}{13}}$.
- The sequence follows a pattern of adding 3 times the previous addition starting with the addition of 1. 1 to 2 is an addition of 1, 2 to 5 is an addition of 3, 5 to 14 is an addition of 9, 14 to 41 is an addition of 27, and so on so forth ultimately resulting in the next two numbers in the sequence being 365 and 1094. This results in the sum of $\boxed{1459}$.
- To solve this question, we can simply multiply the percentages in order by the number shown. To start, we would multiply $\frac{50}{100} \times 200$ because 50% expressed as a fraction is $\frac{50}{100}$. From that, we get 100 which we can multiply by the next percentage 40% which is $\frac{40}{100}$ expressed as a fraction. From that, we get 40 which we can finally multiply with the final percentage 80% or $\frac{80}{100}$ to get the answer $\boxed{32}$.
- Using the Pythagorean theorem, $A^2 + B^2 = C^2$, we can solve this question and find the hypotenuse. $18^2 + 24^2 = x^2$. Therefore, $x = \boxed{30}$.
- Since the pet frog jumps up 4 feet every first hour and slides down 2 feet every second hour, we can say that the frog jumps 2 feet in 2 hours. Following this rule, we get to hour 28 with 28 feet jumped up the wall. In hour $\boxed{29}$, if Harshil's frog jumps up 4 feet, it passes the 31 feet mark escaping from his house not needing to make it to hour 30 before escaping.
- To solve this question, we know that there are 12 people at the competition and if they all decide to shake hands the first amount of handshakes that take place are 11 because someone cannot shake their own hand. Then, since one person would have shook hands with everyone else already, the other 11 people would shake hands making 10 handshakes take place, and continuously the handshakes would get less and less until finally there is 1 handshake left. The expression to solve this question would be $11 + 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1$ which equals $\boxed{66}$.
- Since Jada Smith is such a cheater, we shall also find a cheat-trick to answer this question. Instead of counting 935 months after September, we can find how many months there are in a year, divide 935 by that, and use the remainder to find the month. In this situation, we know there are 12 months in a year and $935 \div 12 = 77R11$. The remainder tells us that the month 11 months after the starting month is the answer. In this case, 11 months after September is $\boxed{\text{August}}$.
- In this question we are given the sales tax which is 150%. With this information, we can multiply the price of the dessert with the percentage to find the sales tax. We can multiply $\frac{150}{100} \times 26$ because 150% as a fraction is $\frac{150}{100}$. After we do this we know that the sales tax is \$39 and we must add that to the original price in order to get the cost after

- sales tax as \$65. At the end of the question we are told that he has a coupon that gives him a 30% discount. In order to find the price of the discount, we must multiply the price after sales tax with the percentage of the coupon. We can multiply $\frac{30}{100} \times 65$ because 30% as a fraction is $\frac{30}{100}$. Once we multiply those, we find that his coupon covers \$19.50 of the dessert. Finally, we simplify and find that $\$65.00 - \$19.50 = \boxed{\$45.50}$.
14. In order to find the first and last numbers in a sequence of consecutive even integers, you must make the equation $x + x + 2 + x + 4 + x + 6 + x + 8 + x + 10 = 870$, which equals $6x + 30 = 870$. This equation allows you to find the value of x , which is the first and lowest number in the sequence. With that information, you can find the largest number in the sequence and ultimately find the average of both, $x = 140$, which is the first number in the sequence and in order to find the last number in the sequence you must do $x + 10$ which is 150. The average of 140 and 150 gives us $\boxed{145}$.
15. To solve this question we must first find the value of x by solving the first equation. By moving all similar terms to different sides, we get $2x = 110$, or $x = 55$. With this information, we can put the x into the next equation and find that $y = \frac{32}{55} \times 55 + 408$. Simplifying that, we find that $y = \boxed{440}$.
16. To complete this question, we must first find how many pennies Tanusri has. Tanusri has 10 nickels, 23 dimes, and 6 quarters giving her 39 coins that are not pennies. To find the pennies, we can subtract the total coins 109 with 39 other coins and find that 70 of the coins are pennies. Since the question is asking for the percentage of pennies out of the total cost of all the coins, we must add the values of all the coins up. 10 nickels equal 50 cents, 23 dimes equal 2 dollars and 30 cents, 6 quarters equal 1 dollar and 50 cents, and 70 pennies equal 70 cents. The total cost of all the coins is \$5.00. The question is asking for the pennies out of the total, so the fraction that we would use to find the percentage would be $\frac{0.70}{5.00}$. This is equal to 0.14 or $\boxed{14\%}$.
17. This question gives us the speed we fall at as 125 feet per 30 seconds which is 250 feet per minute. If he has to fall 5,000 feet, we can simply answer this question by dividing 5,000 by 250 because the answer is wanted in minutes. $5,000 \div 250 = \boxed{20}$.
18. To answer this question, all we must do is substitute values into the already present function. $36\%4$ equals $(\frac{36}{4})^4$ which equals 9^4 which is the numerator of this question. In the denominator we have $18\%2$ which equals $(\frac{18}{2})^2$ which is just 9^2 . Since both exponents have the same base through division we can subtract the exponents and find the final answer to be 9^2 or $\boxed{81}$.
19. This question requires knowledge of the conversion factor 1 pound = 16 ounces. With this conversion factor, we can simply answer this question. Since we know that Mihir's dog eats 10 ounces of food per meal and he eats 4 meals a day, we can evaluate that to 40 ounces of food per day. And if we are trying to find how much his dog eats in 5 weeks, we must convert weeks to days making 5 weeks into 35 days. With this conversion, we can multiply 35×40 to find the amount of ounces his dog eats in 5 weeks which is 1400. The question is asking for how many pounds his dog eats and the conversion factor for ounces to pounds is 16 ounces is 1 pound. Since we know the conversion factor, we can divide $1400 \div 16$ to get a final answer of $\boxed{87.5}$ pounds.
20. To answer this question, we must know simple facts such as a scalene triangle having three different side lengths making I true. An isosceles triangle has two sides of equal length and a third side with a different length, so II is also true. Finally, a right triangle cannot be an equilateral triangle, so III is true as well. This makes the correct answer for this question $\boxed{\text{I, II, and III}}$.
21. In order to get the right answer, we must first compute the total cost of 4 pounds of bananas which is 8 dollars because each pound is worth 2 dollars. From there, we can calculate the price of the banana peels by multiplying 8 dollars by 30% or $\frac{30}{100}$ to get a final result of $\boxed{\$2.40}$.
22. To solve this question we have to find how many floors Akash has to climb first. Akash is starting on the first floor and has to get to the 46th floor, so he has to climb 45 floors to get to his floor. If each connecting floor has 24 stairs, we can find the total number of stairs to his floor by multiplying 45×24 to get $\boxed{1080}$.
23. First of all, we know that the area formula of a square is s^2 . Using this formula, we can deduce that Square A has a side length of 6, and Square B has a side length of 15 by square-rooting both areas. Since we have the side lengths, the ratio of double the side length of Square B to half the side length of square A would be $\boxed{10 : 1}$.

24. Using Roman numerals we know that C is 100, L is 50, X is 10, V is 5 and I is 1. With these values, we can find that the first part of the question is 72 and the second part of the question is 96. We add both 72 and 96 to find the answer to be 168. 168 expressed as a Roman numeral would be $\boxed{\text{CLXVIII}}$.
25. For this question, you must know that every time the minute hand is on 12 and the hour hand is on a whole number, the angle made by the clock's hands will be $30 \times$ the whole number. For example, if the question asked for 3:00 P.M., we could use the formula and find that $30 \times 3 = 90$, so that would be 90 degrees at 3:00 P.M.. For this question it asks for 7:00 P.M. so the correct answer would be 30×7 which is equal to $\boxed{210^\circ}$.
26. In this question there aren't a huge variety of answers that could be possible. Knowing that the sum of John's age squared added to Malcolm's age is 62, we can deduce that John's age being squared has to be less than 8 because if it was 8, then John's age squared would be 64 which is above 62. So we can start by trying 7 as John's age, so we would square 7 and get 49 and then since we know John's age squared plus Malcolm's age is 62, we can subtract 49 from 62 and find that Malcolm's age is 13. With John's age being 7 and Malcolm's age being 13, we can substitute it into the next equation to see if the values add up. Malcolm's age squared would be 169 plus John's age of 7 would be 176, Therefore, the product of their ages would be $13 \times 7 = \boxed{91}$.
27. In order to find x here, we must simplify all the radicals. $\sqrt{48} = 4\sqrt{3}$, $\sqrt{243} = 9\sqrt{3}$, and $\sqrt{27} = 3\sqrt{3}$. With all of the radicals simplified, we can simply add all the radicals because the number under the radical is the same for all 3 radicals. Therefore, we have $4\sqrt{3} + 9\sqrt{3} + 3\sqrt{3}$ which equals $\boxed{16\sqrt{3}}$.
28. The easiest way to solve this question is to use the formula $\frac{(n)(n+1)}{2}$ which gives us the sum of all numbers in a consecutive pattern with n being the first and largest number. For example, if we use this formula for $5 + 4 + 3 + 2 + 1$, we get $(5 \times 6) \div 2$ which is 15 and if you manually add the numbers, you come to the same conclusion. Using this formula we must compute $(2020 \times 2021) \div 2$, which gives us an answer of $\boxed{2041210}$.
29. To solve this question, we must use the combinations formula also known as the combination formula which is $\binom{n}{k} = \frac{n!}{k!(n-k)!}$, with n being the number of objects to choose from and k being the number of objects you are choosing. Applying that formula to the question we get $\frac{11!}{5!(6)!}$, which calculated, gives us $\boxed{462}$.
30. This question requires no mathematical skill other than counting. By counting the letters throughout the quote, we find that the letter \boxed{i} is the most common letter.