**Galaxies Test Answers**

* + - 1. **D**
      2. **D**
      3. **E (8)**
      4. **B**
      5. **B**
      6. **D**
      7. **B**
      8. **B**
      9. **C**
      10. **B**
      11. **C**
      12. **A**
      13. **B**
      14. **C**
      15. **D**
      16. **B**
      17. **C**
      18. **C**
      19. **A**
      20. **A**
      21. **E (85%)**
      22. **A**
      23. **B**
      24. **C**
      25. **E (14)**
      26. **B**
      27. **B**
      28. **D**
      29. **E (55)**
      30. **C**

**Galaxies Test Solutions**

1. Follow the order of operations to solve the expression.









27500

27500 is our answer. **D**

2. Notice that difference between one term and the succeeding term is 2.2. Therefore, to find the next term, subtract 2.2 from 25.6, getting the number 23.4. **D**

3. Plot the points (3,5) and (-5, 5) on a 2-D graph. From the graph, we can determine that the distance between these points is a horizontal distance caused by a difference in x. Subtact the x-values to get the difference:  **E**

4. First, convert 12 boogles into stroogles. Using dimensional analysis, we solve: 

Now, we can convert stroogles to doogle:

. 

This gives us our final answer, 15. **B**

5. 80% =  =  **B**

6. The absolute value of any number is the number’s distance from 0; therefore |-455| = 455 **D**

7. We want to find the probability that both events occur. Because they are independent events, the rules of probability tell us that we simply have to multiply the two probabilities together.

 The final answer is . **B**

8.  **B**

9. Try dividing each answer into 8462852 to check for a remainder. Using divisibility tests, we can see 1, 2, and 4 divide evenly. Only 3 does not. **C**

10. The greatest common multiple of 27 and 6 is 54. **B**

11. The total distance Sri has to travel is 60 light-years, because he is traveling from Galaxy A to Galaxy B and back. It would normally take Sri 60 years to travel 60 light-years, but his speed is halved. This would double the time it would take for Sri to travel, so it would actually take him 120 years. The final answer is 120. **C**

12. Substitute 2, 1, and 5 to correspond with a$b.  **A**

13. The width of the rectangle is the smallest prime number, so width = 2. The length is 5 times the width so length = 10. The area of a rectangle is length times width, . The final answer is 20. **B**

14. To find the area of a triangle, you must know the base and height. In a right triangle, the legs serve as a base and height, so you can use the values given. Multiply the base (20) by the height (22), then divide by two to get your area. The final answer is 220. **C**

15. Only Zuhair received the incorrect amount change. 5 - 3.24 = 1.76, not 2.76. **D**

16. We need to find the circumference of the ring, and we are given the diameter. We know that if you multiply the diameter of a circle by pi, we get the circumference.  **B**

17. C. A fraction of rational numbers is a rational number itself. **C**

18. You can rearrange the letters in 5 x 4 x 3 x 2 x 1 ways, or 120. **C**

19. Average speed is calculated by the (total distance) / (total time). And distance, given speed and time, can be calculated with time x speed. So, =30 **A**

20. The associative property of addition states that you can regroup an addition expression with parenthesis without changing the total. Answer A is the only equation that shows this. **A**

21. The third prime number is 3. This means that there are 17 out of 20 galaxies that have seven arms. 17/20 is equal to 85%. **C**

22. First we must identify the coefficient of the number expressed in scientific notation. 2 is the digit before the decimal point, and 3 is the only digit that precedes the decimal point. To find the exponent, count the number of digits after 2 in 230 million. There are 8 digits. Therefore, our expression is  **A**

23. Plug the variable values into the formula.

 **B**

24. Use the slope formula to find the slope.

 **C**

25. Let’s list all the possible ways the starbursts can be arranged. The first possibility is that Alex Y. only gets one starburst. This starburst could be any one out of the four. This means that there are four arrangements where Alex gets one starburst.

The second possibility is that Alex Y. gets two starbursts. There are six ways to choose two flavors out of four. Therefore, there are six arrangements if Alex gets two starbursts.

The third possibility is that Alex Y. gets three starbursts. This means that Alex Y. is only missing one starburst. There are four possible flavors that he could not get, so there are four possibilities if Alex gets three starbursts.

4+6+4=14 **E**

26. If you travel at the speed of light, it will take you a year to travel a light year. Therefore it would take 30 million years to travel 30 million light years. **B**

27. The equation  has a slope of 3. To find the perpendicular slope, we must find the negative reciprocal of 3, which is . **B**

28. So, **. D**

29. The sequence given is the Fibonacci sequence. Add the two previous terms to find the next term. If you continue the pattern, you will get 55 as the 10th term. **E**

30. To solve this problem, we must find the sum of 3+4+5+...+32. Pairing the terms (3 & 32, 4 & 31, 5 & 30, etc…) and realizing each of the 15 pairs add up to 35, 15 x 35 = 525. **C**