1. A- Using order of operations: 7x9 = 63, 18x2 =36. So 63+36+12=111
2. C- 5^2 = 25, and units are in feet.
3. C- 5+5+5+5 = 20 feet
4. B- πr²= π(3)² = 9π
5. D- the pattern repeats every 4, so because 20 is a multiple of 4, the answer is 8
6. D- there are 16 1x1 squares, 9 2x2 squares, 4 3x3 squares. Then we must add 10 for 5 squares found in each of the 2 small squares in the center. The entire square gives you one more.
7. B -  Using order of operations:

10 x ( 30 + 72 x 0 ) + 14 - ( 0 x 712 + 300 + 5 )

= 10 x ( 30 + 0 ) + 14 - (0 + 300 + 5)

= 10 x 30 + 14 - (305)

= 300 + 14 - 305

= 9 -> B

1. D- If we subtract each subsequent term, the differences keep increasing by 1.

4,5,7,10,14,19

5-4=1

7-5=2

10-7=3

…

So the next term in the sequence must be 6 greater than 19, which is 25 -> D

1. B- Scientific notation is writing the same number with only using a number between 1 and 10 multiplied by a power of 10. So, using this, the answer is B
2. A- The formula for finding the sum of integers 1 to n is (n/2)(1+n). If we plug in 100 for n, we get (100/2)(101) which is 5050.
3. C- the prime factorization for 85 is 17\*5  and the prime factorization for 102 is 17\*2\*3. Using this, we see that 17 is common, so the greatest factor is 17.
4. B- Mulan climbs a net of 2 feet each hour, at the 15th hour, she is 30 feet up the hole. So when she climbs up another 4 in an hour, she is out of the hole.
5. D- If they are travelling at 10 meters per second, they are travelling 10\*60\*60 meters per hour. Then we have to multiply by 3 for the amount of time they have left. So 10\*60\*60\*3=10,800
6. C-Tinkerbell has to travel 60 feet at 15 feet per second, making her trip 60/15 = 4 seconds. Peter Pan has to travel 55 feet at 11 feet per second making his trip 55/11 = 5 seconds. So Tinkerbell gets there 1 second before Peter Pan.
7. C- The length of Rapunzel’s hair should be 48 \*3/2 which is 72 feet.
8. B If the base is 6 feet, then half of it is 3, and the other sides are 5 feet. When you split it in half to make two right triangles, the sides are 3 and 5 feet. You can use the formula a^2 + b^2 = c^2 to find the height. Then you multiply 3x4 to get 12.
9. B If Ariel travels at 12 miles an hour, then it takes her 2.5 minutes to travel half a mile, and 1.25 minutes to travel a quarter of a mile. When you add these times to the thirty seconds she took to help Flounder, you get 4 minutes and 15 seconds.
10. Answer-B If there are three cheese blocks, then that leaves 31 food items left. If you make bread loaves equal x, apples will equal 2x, and bananas will equal x-1. 2x+x+x-1=31, x=8. Since Abu gets half of the food, he gets 8 apples.
11. Answer- D There are 9 people eating the cake, and three fifths of 20 is 12. This means that the side lengths are 9 in, 12 in, and 20 in. If you multiply those together and divide by 9 (every person gets a piece) you get 240 inches cubed.
12. Answer-D The smallest and largest prime numbers whose digits add up to 7 is 7 and the largest is 61. When you multiply those together you get 427.
13. Answer-B. (Almost) anything to the zero power equals 1. So, 1 + 75,554 = 75,555.
14. Answer-B The pattern is to take the last term, multiply it by two and add 1. When you do this, the terms are 1, 3, 7, 15, 31, 63, 127. If you add all of these numbers, you get 247.
15. Answer- C One tenth of 120 is 12, and 12x2xπ = 24π.
16. Answer- D 5 • 6 • 4 • 3 = 360
17. Answer- D 2 • 4 • 6 • 8 = 384, 1 • 3 • 5 • 7 = 105. 384 + 105 = 489
18. Answer- C Since each recipe calls for two eggs, and 23/2=11.5, she can make 11 and a half batches.
19. Answer-E 1 magic carpet = 200 loaves of bread

12 pies = 50 loaves of bread

48 pies = 200 loaves of bread

48 pies = 1 magic carpet

96 pies = 2 magic carpets

1. Answer- A If you use the formula a^2 + b^2 = c^2, then you will find out that c is 5.
2. Answer-B 3,141,592.65 - 2,005,001.25 = 1,136,591.40
3. Answer- C according to IMDb.