1)  **(D)**

2)  **(B)**

3) A dozen is 12, so 2 dozen is 24 and half a dozen is 6.  **(D)**

4) In order to add 9 and , they need to have a common denominator of 3. Multiply the top and bottom of by 3 to get . Then  **(C)**

5) 4 is equivalent to 4.5. 2.40 **(E)**

6) The sum of all angles in a triangle is . , so the last angle must be  **(B)**

7) By definition, 0 and 1 are neither prime nor composite. 91 is divisible by 13 and 7. **89** is a prime number **(C)**

8) Since they pay the same amount, they each pay half of the total cost.  **(B)**

9) Multiply both the top and bottom of by 2 to get which as a percent is simply the numerator, **94% (B)**

10) The common denominator for the two fractions is 6, so multiply both top and bottom of by 2 to give you . **(A)**

11)  **(A)**

12) If the diameter of the hole is 8 cm then the radius is 4 cm. Since the area of a circle is and r = 4 the area is **16 (C)**

13) The total cost will be , which equals by the distributive property.  **(C)**

14) Since there is now only half of the original vanilla extract, we need to divide by two, or multiply by which gives us  **(C)**

15) The average number of popcorn pieces in Bailey’s bags is going to be 57. Therefore, , where 54 is the number of popcorn pieces in each of Bailey’s first three bags, is the number of popcorn pieces in Bailey’s fourth bag, and 4 is the total number of bags. Simplifying this, we get , or . Solving gives  **(B)**

16)

17) Let 12=A and 4=B. Therefore A≬B  **(B)**

18)  **(D)**

19)

20) We already know 4 minutes is 80 cents and since two minutes is half of 4 minutes the price should be half of 4 minutes, 40 cents. **(C)**

21) Cici fills the cup to 50%. Izzy fills the cup to the point where 25% is empty, or full, so Izzy fills of the cup with Coca-Cola. That means of the cup is Coca-Cola **(B)**

22) Divide both the top and bottom of by 8 to get  **(B)**

23) and . divided by is equal to =  **(B)**

24) Area equals length times width so  **(B)**

25) In order to compare all the fractions, you need to give them all a common denominator of 32. Multiply the top and bottom of by 2 to get . Multiply the top and bottom of by 8 to get . Multiply the top and bottom of by 4 to get . Out of all of these, is the largest. Therefore, **Joyce** ate the most cotton candy **(D)**

26) Multiply the top and bottom of by 4 to get . This means he has 36 cents.  **(C)**

27) The only integers 1 away from 20 are 19 and 21. Since the number is not composite (or prime) and 21 is divisible by both 7 and 2, the number must be **19 (A)**

28)  **(E)**

29) Let x be the amount of whole dollar bills Izzy inserts, and let y be the amount of change he inserts each time that he doesn’t get back. For example, if Izzy inserted $31.97, and . Now we can set up equations: , or . We can simplify this further by dividing both sides by 4, getting . This means that and . Each time Izzy inserts the amount of , he only gets $3 back. Therefore, if he inserts $3.75 a total of 16 times, the amount he gets back will be  **(B)**

30) The pizza has radius , meaning the pizza’s area is . The ring-shaped area between the two cuts has area . The ratio of these two areas equals , which simplifies to or  **(B)**