

ELEMENTARY – FLORIDA ROAD TRIP

You have 60 minutes to complete the following 30 multiple-choice questions. Choices A through D are answer choices for every problem. Choice E stands for “none of these answers,” or NOTA. Scoring is as follows: 5 points for a correct answer, 1 point if left unanswered, and 0 points for an incorrect response. Units are assumed. Diagrams not to scale.

1. Karen and Claire are packing snacks for their road trip through Florida. They both decide to bring apple pie. Unfortunately, Karen got hungry and ate $\frac{1}{3}$ of her pie before the road trip. If they both planned to bring only one pie each, how much pie did they actually take on the trip?

- A. $\frac{2}{3}$ B. $1\frac{1}{3}$ C. $1\frac{2}{3}$ D. 2 E. NOTA

2. Tracy wanted to treat Claire and Karen to a dozen donuts from Krispy Kreme before they left. However, on her way back from the donut shop Bryan stole $\frac{1}{3}$ of the donuts. After the incident with Bryan, Tracy ate $\frac{1}{4}$ of the remaining donuts. How many donuts did Tracy actually give to Claire and Karen?

- A. 2 B. 3 C. 4 D. 6 E. NOTA

3. In order to pass a road toll for free, Jenny must determine the number of the following statement(s) that is(are) correct. Jenny correctly determines the answer and does not have to pay a toll! What was Jenny’s answer?

- I. 70 is 100 times greater than .07
II. $56 \times 45 = 2020$
III. In the inequality $3x > 7$, $x = 3$ satisfies the expression

- A. 0 B. 1 C. 2 D. 3 E. NOTA

4. John is on the Tallahassee motorway to Orlando where tolls can be paid by solving a simple math question. A is $\frac{1}{2}$ of B, B is $\frac{1}{3}$ of C, and $\frac{2}{3}$ of B is 6. What’s the value of A?

- A. 3 B. $4\frac{1}{2}$ C. 9 D. 18 E. NOTA

5. Vera loves space, and decides to stop at the Kennedy Space Center to watch a rocket launch. If the rocket went 12636 miles in 5.4 hours, what was the speed of the rocket in miles per hour?

- A. 39 B. 210.6 C. 2340 D. 68324.4 E. NOTA

6. St. Augustine is one of the oldest cities in America, and on their Florida road trip, Destiny and Jordan learn that it was founded in a year with four digits. The first two digits of the year are the product of $3x$, and the last two digits are the product of $13x$ where x is a positive integer. If the third digit is one more than the fourth digit, what year was St. Augustine founded?

- A. 1252 B. 1565 C. 1878 D. 2191 E. NOTA

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7. Oh no! While driving on the road, Chris got pulled over for speeding. The police officer says that she will not give Chris a ticket if he tells her the average of the first five prime numbers to the nearest tenth. Chris answers correctly and does not get a ticket. What was his answer?

- A. 3.6 B. 5.6 C. 18.0 D. 28.0 E. NOTA

8. Kaitlyn is going on a road trip all the way to the Florida Keys from Tallahassee, approximately 640 miles. What distance does Kaitlyn cover in feet? Hint: There are 1,760 yards in a mile.

- A. 1920 B. 5280 C. 1126400 D. 3379200 E. NOTA

9. Dimitria is at the southern most point in the U.S.A. which is in the Florida Keys. She is very thirsty and stops at a Quick Stop which has a cube tumbler as a tourist drink cup. The small size has sides of 5 cm x 5 cm x 5 cm giving it a volume of 125 cm^3 . The large is also a cube but each side is tripled. How much volume is in the new cube tumbler.

- A. 15 ml B. 125 ml C. 375 ml D. 3375 ml E. NOTA

10. Uh oh! While Jason and Alex are driving on the road, they pass some protesters just as several alligators storm the road. The number of heads on the road is 27, and the number of legs on the road is 82. If there are only people and alligators on the road, and the people have one head/two legs while the alligators have one head/ four legs, how many alligators were on the road?

- A. 7 B. 13 C. 14 D. 26 E. NOTA

11. Sandhya's favorite animal is the walrus. She decided to visit one of the walruses at Sea World on her road trip. She learned that a walrus can weigh up to 3748 kg. What is the maximum weight of a walrus in *metric* tons? (Hint: 1000 kilograms in a metric ton)

- A. 1.874 B. 3.748 C. 18.74 D. 37.48 E. NOTA

12. If 243 kids are going on a field trip to Orlando and only 9 of them are wearing hats, what is the probability that a kid wearing a hat is first on the ride?

- A. $\frac{1}{81}$ B. $\frac{3}{200}$ C. $\frac{1}{27}$ D. $\frac{1}{26}$ E. NOTA

13. Upon arriving at Disney in Orlando, some of the kids decide to take a picture. After getting the photo back, Dan realizes that it is rectangular with a length of 23 units and width of 17 units. What is the area of the picture?

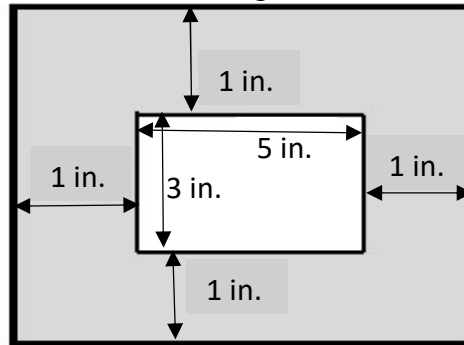
- A. 391 units B. 391 units^2 C. 437 units D. 437 units^2 E. NOTA

14. Sam and Tom decided to travel down to the Florida Keys for snorkeling. When they get to the reef, they see 45 red fish, 60 yellow fish, 30 green fish, and 20 blue fish. Suddenly, a big shark appears and scares away $\frac{4}{5}$ of the green fish, $\frac{1}{12}$ of the yellow fish, $\frac{4}{15}$ of the red fish and $\frac{3}{4}$ of the blue fish. How many total fish remain?

- A. 56 B. 64 C. 91 D. 99 E. NOTA

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15. Jessica is a photography pro and takes a lot of pictures as she travels through Florida. She decides to frame all 174 of her pictures with a one-inch border on all sides. If the pictures are 3in by 5in and the picture mat provides a 1 inch border, what is the total area of matting that Jessica will need to frame all her photos?



- A. 24 in^2 B. 35 in^2 C. 3480 in^2 D. 6090 in^2 E. NOTA

16. Alisha, Brenda, Chi-Chi and David decide to swim quickly to a shark free area and catch some fish. If Alisha catches 5 fish in 3 minutes, Brenda catches 6 fish in 4 minutes, Chi-Chi catches 7 fish in 6 minutes, and David catches 12 fish in 8 minutes then who would win a 12 minute fishing competition? (Assume they continue to catch fish at the same rate for the whole 12 minutes).

- A. Alisha B. Brenda C. Chi-Chi D. David E. NOTA

17. Sam and Tom swim back to the boat that will take them to shore, but the captain tells them that they must tell him the correct answer to this math problem to be allowed back on the boat:

"If Jason spends \$265 on 53 dark chocolate bars and Venkat spends \$351 on 117 milk chocolate bars. What is the cost of one Milk Chocolate and Dark Chocolate bar?"

What correct answer did Sam and Tom give to get back on the boat to reach ashore? If needed round the answer to the nearest hundredth.

- A. \$7 B. \$8 C. \$12 D. \$13 E. NOTA

18. Road trips are great fun, but long car rides can mean boredom in even the most enthusiastic of travelers. Chris is no exception. In order to pass the time, he calculates big numbers in his head by multiplying random numbers together. Some of these numbers are:

2401

16807

16384

78125

Which of these numbers is divisible by 3?

- A. 2401 B. 16384 C. 16807 D. 78125 E. NOTA

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19. Mia brings all of her collectable pins with her to Disney world. She only collects Mickey Mouse and Minnie Mouse pins. If the ratio of Mickey to Minnie pins is 6:13, and Mia has 133 pins, how many Minnie Mouse pins does she have?

- A. 42 B. 54 C. 91 D. 117 E. NOTA

20. David is stuck in traffic in the middle of the *Cartesian Plane Highway* (he can only move north, south, east west with the roads), at the point (4,17). He decides to take a detour by going 20 units north, 7 units east, 12 units west, and 20 units south to his final destination. If David had gone straight rather than taken the detour, how many units less would he have traveled?

- A. 5 B. 19 C. 49 D. 54 E. NOTA

Use this information for questions 21-23

Jaxon's Ice Cream store was voted one of the best ice cream parlors in all of Florida. The parlor offers chocolate, strawberry, vanilla, mint, and cookies & cream ice cream. The parlor also offers fifteen distinct toppings. The first scoop of ice cream costs \$3.50, and each additional scoop is \$1.50. The toppings are \$0.15 each.

21. Jack decides he wants to get an ice cream cone with three scoops of ice cream and three toppings. What is the cost of his order?

- A. \$4.65 B. \$6.95 C. \$8.50 D. \$10.95 E. NOTA

22. How many distinct ice cream servings can Jack get if he wants two different scoops of ice cream, and one topping?

- A. 300 B. 375 C. 600 D. 750 E. NOTA

23. After much consideration, Jack decides to buy two scoops of chocolate ice cream with no toppings. He is very happy with his ice cream choice, but he is unhappy when he sees that his friend paid way more for her cone. His friend ordered one scoop of each flavor and all the toppings. How much more did Jack's friend pay?

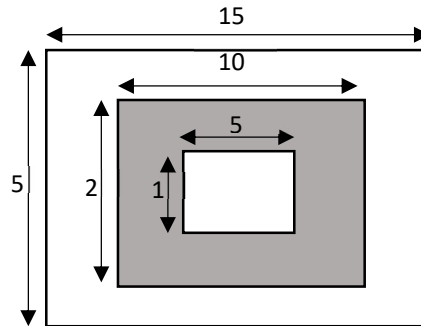
- A. \$4.50 B. \$5.00 C. \$6.75 D. \$11.75 E. NOTA

24. Filippo and Ben are stuck in traffic on their way to Universal Studios. They decide to pass the time by talking about fun number patterns. Filippo says I like multiplying by 1 because it just gives you the same number. He says like 111×111 is just 111. Ben laughs. So what is 111×111 ?

- A. 111 B. 222 C. 1212 D. 12321 E. NOTA

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25. At a stop in Universal Studios, Brighten decides to play an archery arcade game. The target is a rectangle with two smaller rectangles inside of it. In order to win a prize, Brighten must hit the part of the target between the smallest and second smallest rectangles (shaded area). What size is the shaded area? Dimensions of the target are given as shown and are in inches.



- A. 5 in^2 B. 15 in^2 C. 20 in^2 D. 75 in^2 E. NOTA

26. Jay, Jake, Jack, and Jill all decide to race to their RV before going on a road trip. Help the judge, Bill, figure out who won first place based on the facts below:

- ♦ Jay did not finish last
- ♦ Jack was in front of Jill
- ♦ Jack is in a position that is prime number
- ♦ The person directly behind Jay has an even number of vowels in their name

- A. Jay B. Jake C. Jack D. Jill E. NOTA

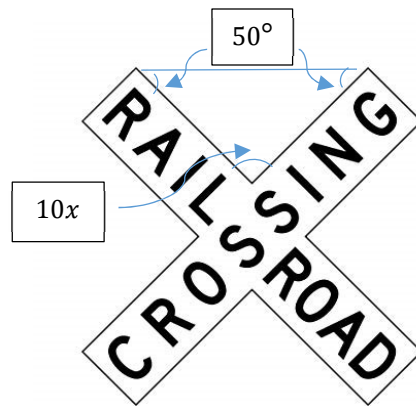
27. The Chiles MAΘ club is having a late-night pizza party. In the first hour, the club eats $\frac{1}{3}$ of all of the pizza. In the second hour, the club eats $\frac{1}{2}$ of the pizza left over from the first hour. How much of the pizza is left?

- A. $\frac{1}{6}$ B. $\frac{1}{5}$ C. $\frac{1}{3}$ D. $\frac{2}{3}$ E. NOTA

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28. Sam is driving to Miami to visit family. His sisters, Sandy and Sue, are sitting in the back and are bored. Sam stops at a railroad crossing sign and Sandy and Sue are very fascinated by the angles in the sign shown below. They decide to calculate the missing angle of the triangle indicated, which is equal to $10x$. Sam gives them the hint that the angles of a triangle add up to 180° . What is the measure of the angle that Sandy and Sue are trying to find?

- A. 8° B. 50° C. 80° D. 130° E. NOTA



29. Jake decides he wants to determine how long it would take him to get from Tallahassee to the Florida-Georgia border. If the distance from where he is in Tallahassee to the spot at the border is 10 miles, and he is going at a speed at 30 miles per hour, then how long would it take him to reach his destination on the border (all answers are in minutes)?

- A. 10 B. 20 C. 35 D. 40 E. NOTA

30. We are hosting a Florida Road Trip Welcome Home Party for some of the travelers coming back! There are 16 people attending this party and everyone needs one plate, napkin, spoon, packet of chips, and a drink. They also each need two slices of pizza. If each plate costs \$0.75, each napkin is \$.50, a pack of 32 spoons are \$4, a box of 48 chips is \$12, a pack of 15 sodas are \$8, and a pizza with eight slices is \$5, then how much will we spend for everyone to have all the items they need for the party? Assume that you can only buy whole packages of items, for example you can only buy a pack of 32 spoons, not individual spoons.

- A. \$70 B. \$71 C. \$72 D. \$73 E. NOTA