

1. There are four oceans in the world, though some countries recognize the Southern Ocean as the fifth ocean. What is  $5! - 4!$ ?  
A. 1                      B. 8                      C. 48                      D. 96                      E. NOTA
2. Hadriel is trying to catch a fish! However, instead of a fish he pulls up a small sheet of paper with a math question on it. If Hadriel gets the question right, what was his answer? The question is:  
$$(1 + 20 \times 23 - 14 \div 2)0 + 2[20 \times (0 + 3)] - 1.$$
  
A. 119                      B. 126                      C. 578                      D. 579                      E. NOTA
3. Three sharks ate 17 fish each in a sea with 97 fish total. How many fish are remaining? Assume no fish enter or leave the sea.  
A. 51                      B. 80                      C. 77                      D. 46                      E. NOTA
4. A mutant octopus is found wandering the ocean. It has  $x$  appendages where  $x$  satisfies  $3x = 9(x - 4)$ . How many appendages does the octopus have?  
A.  $-2/3$                       B. 6                      C. 4                      D. 8                      E. NOTA
5. Nelson needs your help to build a sandcastle! Help him by solving this problem! If  $2 \times 3 = 6$ , then what is  $2 \times 3 + 6$ ?  
A. 12                      B. 11                      C. 0                      D. 6                      E. NOTA
6. There are 2000 sea urchins the first day in a given region in the sea, each following day that number increases by 5 sea urchins. What is the number of sea urchins on the seventh day?  
A. 2005                      B. 2030                      C. 2035                      D. 2040                      E. NOTA
7. Katharine decides to take a boat out to sea. She rides the boat for 8092 meters. She notices that after every 4 meters she saw a fish! How many fish did she see while traveling in the sea?  
A. 2022                      B. 4046                      C. 2023                      D. 4044                      E. NOTA
8. Linsey times Katharine as she swims 4 meters out into the sea. She yells at Katharine that she took 20 seconds to finish swimming the 4 meters. What was Katharine's average swimming speed in simplest form? All answers are in meters/second.  
A. 5                      B.  $\frac{1}{5}$                       C.  $\frac{4}{20}$                       D.  $\frac{1}{4}$                       E. NOTA
9. A dolphin is swimming to a lighthouse. If the distance from the dolphin to the lighthouse is  $7x - 40$  where  $x = 36$ , how far does the dolphin have to swim?  
A. 232                      B. 272                      C. 252                      D. 212                      E. NOTA
10. There is a group of 10 eels in the ocean. The group of eels find a mass of 6 fish. Every minute, one additional fish joins the mass of fish. After 2040 seconds, the eels ate all the fish, with each eel eating an equal amount of fish. How many fish did each eel eat?  
A. 4                      B. 0                      C. 2                      D. 1                      E. NOTA
11. A boat is 6 miles from shore and is traveling at a constant 2 mph back to shore. How long does it take to reach the shore, in minutes?  
A. 3                      B. 120                      C. 8                      D. 180                      E. NOTA

12. Aaron finds a beach with many turtle eggs, he counts 316 hatched eggs and 896 unhatched eggs, how many turtle eggs are there in total before the eggs hatched? Assume that the hatched turtles remain in the hole, and no eggs disappear.
- A. 480                      B. 1202                      C. 580                      D. 1212                      E. NOTA
13. In an area of the ocean, there is 6 times the number of kelp compared to otters. In that area, the animal species there consists of only otters and sea horses, where there are 3 times as many sea horses compared to otters. If there are 423 sea horses, then what is the total number of kelp in that area?
- A. 846                      B. 2538                      C. 720                      D. 1269                      E. NOTA
14. Shaoyang comes across a giant squid that blocks his path! The squid tells him that if he can answer the following question correctly, it will let him through. If  $x = \frac{2}{5}$ , and  $y$  is 0.6, what is  $x$  times  $y$  as a common fraction?
- A.  $\frac{2}{25}$                       B.  $\frac{12}{50}$                       C.  $\frac{6}{25}$                       D. 1                      E. NOTA
15. IS THAT A MERMAID? Yimo swims toward the mermaid and sees that it has a tail made of one isosceles triangle and two congruent equilateral triangles. If the isosceles triangle has a 13 inch base and 20 inch height and the equilateral triangles have 2 inch sides, what is the area of the mermaid's tail in square inches? Assume the mermaid's tail is 2-dimensional.
- A.  $130 + 2\sqrt{3}$                       B. 264                      C.  $130 + 4\sqrt{3}$                       D. 34                      E. NOTA
16. Kanye West is having a concert in the Atlantic Ocean! To prepare, he needs to buy a spherical helmet so he can breathe underwater. If the diameter of the helmet is 18 inches, what is the volume of Kanye's helmet in cubic inches?
- A.  $324\pi$                       B.  $7,776\pi$                       C.  $972\pi$                       D.  $1,296\pi$                       E. NOTA
17. Kanye's performance has started! His songs are 3.4, 2.7, 2.9, 4.2, 3.8, 4.5, 1.7, 2.6, 3.6, 3.5, 2.9, 5.3, and 2.9 minutes long. On average, how long were each of Kanye's songs? Round to the nearest tenth.
- A. 3.6 minutes                      B. 3.4 minutes                      C. 5.3 minutes                      D. 3.8 minutes                      E. NOTA
18. Kanye brought DJ Khaled out as a surprise! James wants to calculate how many diamonds DJ Khaled is wearing by using the equation  $(3x - 18)5 = 15$ , where  $x$  is the number of diamonds. How many diamonds is DJ Khaled wearing?
- A. 9                      B. 11                      C. 35                      D. 7                      E. NOTA
19. A school of fish includes 4 different colored fish. There are 12 red fish, 6 yellow fish, 9 green fish, and 13 orange fish. A predator fish comes to eat a fish at random. What is the probability it eats an orange fish?
- A.  $\frac{9}{40}$                       B.  $\frac{3}{10}$                       C.  $\frac{13}{38}$                       D.  $\frac{13}{40}$                       E. NOTA
20. Nima is able to catch 12 shrimps per hour and he starts at 6 A.M. one day and ends at 8 A.M. the next day. He also takes a one hour break at 9 A.M., 2 A.M., and 8 P.M. each. How many shrimps did he catch within 6 A.M. and 8 A.M.?
- A. 312                      B. 276                      C. 34                      D. 264                      E. NOTA
21. Linsey walks along the beach holding a 14 inch string. She collects seashells to make a necklace, a big shell being 2.5 cm, and 1.25 cm for a small shell. She wants 1 more small shells than big shells, how many of each should she collect to make a whole necklace? Assume that 1 in = 2.5 cm.
- A. 10 small, 9 big                      B. 9 small, 10 big                      C. 11 small, 10 big                      D. 9 small, 8 big                      E. NOTA

22. Arib is floating on a pink inflatable tube looking into the seawater at the beach. He sees a massive group of fish of 6 different colors. Two of the colors had 12 fish each, three of the colors had 15 fish each, and the last color had twice the number of the other colors combined. How many fish did Arib see in total?
- A. 69                      B. 138                      C. 207                      D. 81                      E. NOTA
23. A seahorse gave birth to 560 offspring, in the first week 25 percent gets eaten, then in the second week, 30 percent of the remaining offspring gets caught in the current and get lost and die. How many of the offspring survive after the two weeks?
- A. 252                      B. 308                      C. 294                      D. 505                      E. NOTA
24. Nonoko finished snorkeling at 2:30 P.M. She tells her friend Katharine that she saw 12 fish, 2 turtles, and 1 octopus during her adventure. She also said she saw one fish every five minutes, saw the turtles 10 minutes after seeing the last fish, and saw 1 octopus an hour after seeing the turtles, getting out right after. What was the time when she saw the sixth fish?
- A. 12:50 P.M.                      B. 1:20 P.M.                      C. 12:50 A.M.                      D. 1:30 A.M.                      E. NOTA
25. A coral is made up of 6 equivalent cylinders, and its total volume is  $360\pi$  cubic cm. What is the radius (in cm) of each cylinder if their heights are 4 cm?
- A. 5                      B.  $\sqrt{15}$                       C.  $\sqrt{30}$                       D. 15                      E. NOTA
26. David's dream is to sail the seven seas! To do so, he must buy a boat. A boat costs \$500 and David has a magic dollar that is worth one dollar on the Day 1 and doubles in value each subsequent day. On what day number will David first be able to buy the boat?
- A. 3                      B. 5                      C. 7                      D. 9                      E. NOTA
27. While sailing the seven seas, David finds a strange current that flows in a perfect circle. If this circular current has a circumference of  $50\pi$ , what is the area of the circle formed by the current?
- A.  $25\pi$                       B.  $50\pi$                       C.  $625\pi$                       D.  $2500\pi$                       E. NOTA
28. Shaoyang is going to the beach! He decides to bring one set of clothes with him consisting of a hat, a shirt, a pair of pants, a pair socks, and a pair of shoes. If he has 2 hats, 5 shirts, 4 pairs of pants, 6 pairs of socks, and 1 pair of shoes, how many different combinations of clothing can he make?
- A. 17                      B. 18                      C. 120                      D. 240                      E. NOTA
29. James has a 5 liter sample of water which is 20% saltwater and 80% non saltwater. If he wants to make a solution that is 50% saltwater by adding in some 100% saltwater, how many liter(s) of saltwater must he add?
- A. 1                      B. 2                      C. 3                      D. 4                      E. NOTA
30. Last question! Which of the following animals do not (typically) live in the ocean?
- A. fish                      B. monkey                      C. octopus                      D. shrimp                      E. NOTA