

Texas A&M Mathematics Department Mini Fair Math Contest

Grades K-4

April 16, 2011

Please write your answers on the provided solutions page.

1. What number should come next in the list 3, 5, 7, 3, 5, 7, 3, ...
2. Find the value of $5 + 6 + 7$.
3. Find the value of $8 - 3 + 2$.
4. Find the value of 6×7 .
5. Find the value of $3 \times 4 \times 5$.
6. Find the value of $8 \div 2$.
7. Find the value of $24 \div 4$.
8. Find the value of $8 \times (2 + 3 + 4 + 5)$.
9. Suzy has 34 seashells. She collects 27 more. How many does she have in all?
10. If you have 3 quarters, 10 dimes, 5 nickels, and 8 pennies, do you have more or less than \$2.00?
11. Jack can ride his bike 7 miles in an hour. How far will he get if he rides for 8 hours?
12. A carpenter wants to replace the floor in a room that is 12 feet long and 14 feet wide. If the material he uses costs \$6.00 per square foot, how much will it cost him to buy enough material to replace the floor?
13. A football field is 100 yards long. How many inches is that?
14. Eddie's dog Lucky is standing on Eddie's hat. She walks 7 feet to the right, 5 feet to the left, 4 feet to the right, and 9 feet to the left. How far is she from Eddie's hat?
15. Find the smallest integer n so that

$$1 + 2 + 3 + \cdots + n > 20.$$

The next two questions refer to the figure below, in which the length of each side is indicated with a number.

16. Find the perimeter of this shape.

17. Find the area of this shape.

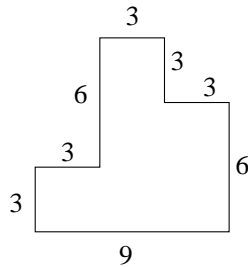


FIGURE 1. Figure for Problems 16 and 17.

18. Find the area of the shape below from the given lengths.

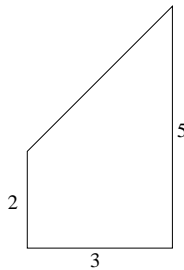


FIGURE 2. Figure for Problem 18

19. Find the value of $\frac{1}{4} + \frac{1}{4}$.

20. Find the value of $\frac{2}{3} \times \frac{3}{2}$.

21. Find the value of $\frac{5}{6} + \frac{3}{4}$.

22. Write the fraction $\frac{1}{8}$ as a decimal.

23. The difference of two numbers is 5. The sum of the numbers is 25. What are the numbers?

24. The last Friday of a particular month is on the 25th day of the month. Which day of the week is the first day of the month?

25. A bag contains only blue marbles and green marbles. There are 6 blue marbles in the bag. The chance of drawing a blue marble from the bag at random is 1 out of 4. How many green marbles are in the bag?
26. Michael and John are twin brothers. One of them always lies, and the other one always tells the truth. I ask one of the boys, "Is John the one who lies?" He answers, "Yes." Did I speak to Michael or John?
27. The students in a classroom noticed that if they line up two in a row or three in a row, there is one student left out. If they line up 5 in a row, no one is left out. What is the smallest number of students for this class.
28. What decimal value corresponds with the shaded area in the figure below?

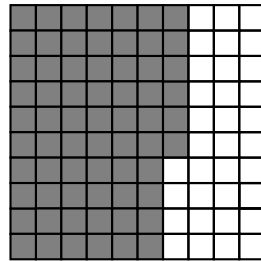


FIGURE 3. Figure for Problem 28

29. A farmer has several black and several white horses. If one of the black horses were white, the number of black horses would be equal to the number of white ones. If one of the white horses were black, the number of black horses would be twice as large as the number of white ones. How many black horses and how many white horses does the farmer have?
30. Write down a list of 10 numbers such that the sum of any three consecutive members of the list is positive, but the total sum of the members of the list is negative.