

1. What percentage is 135 of 450? _____(%)1

2. $N = 2007 + 2008 + 2009 + 2010 + 2011$. Find N . _____ 2

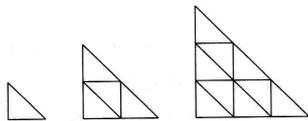
3. If 5 is added to $\frac{1}{4}$ of a number, the result is $\frac{1}{3}$ of the number.
What is the number? _____ 3

4. In the equation that follows, A and B represent positive whole numbers.
 $\frac{A}{3} + \frac{B}{4} = \frac{11}{12}$. What is the value of $A + B$? _____ 4

5. Tom found an old book in the attic. When he opened it, there was page 24 on the left side, and page 45 on the right.
How many sheets of paper were missing between these two pages? _____(sheets) 5

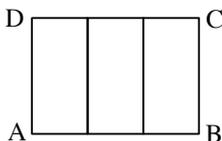
6. A woman spent two-thirds of her money. She then lost two-thirds of the remainder and then had \$4 left. How much money did she start with? _____(\$) 6

7. Using small triangular tiles, David made bigger and bigger triangles. For the first triangle he needed 1 tile, for the second triangle he needed 4 tiles, and for the third triangle he needed 9 tiles (see figure).
How many tiles did he need to make the fifth triangle?



_____ (tiles) 7

8. Rectangle ABCD with perimeter 46 units is divided into 3 small congruent rectangles as in the picture below. The smaller sides of the 3 small rectangles have length 5 units, and lie along the sides AB and CD of rectangle ABCD.
What is the area of rectangle ABCD in square units?

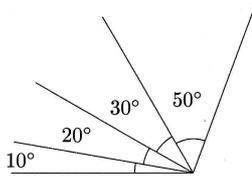


_____ 8

9. Hila drives from her home at 50 km per hour to pick up Joe (the babysitter) from his home located 25 km away. On the trip back to her home, due to heavy traffic, she averages only 20 km per hour.
How much time (in minutes) does it take for Hila to drive the entire round trip? _____(min) 9

Grade Six (6) Division

10. How many angles of different sizes smaller than 180° are there in the diagram?



_____ 10

11. Three lights flash at exactly 12:00. The first keeps flashing every 5 seconds, the second every 6 seconds, and the third every 8 seconds. How many seconds pass until the next time they all flash again at the same time? _____(sec) 11

12. A boy has the following seven coins in his pocket: 2 pennies, 2 nickels, 2 dimes, and 1 quarter. He takes out two coins, and records the sum of their values. How many different sums can he record? _____ 12

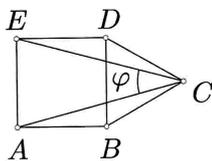
13. The positive whole numbers from 1 to 3000 are arranged in columns as shown below. Name the letter under which the number 2009 will appear.

A	B	C	D	E	F	G
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	_____	_____	_____	_____	_____

_____ 13

14. The perimeter of a rectangle is 220 units and the measure of each side is a whole number of units. How many different areas in square units can the rectangle have? _____ 14

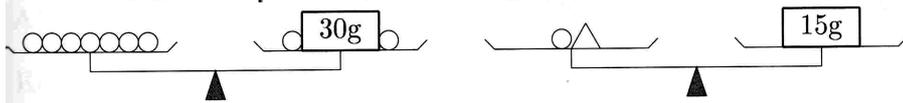
15. $ABDE$ is a square, and the triangle BCD is equilateral. What is the degree measure of $\angle ACE$ (the angle φ in the figure)?



_____ ($^\circ$) 15

16. Ann, Bob and Cam wanted each to buy a sandwich, but none of them had enough money for a sandwich (all sandwiches were costing an equal amount of money). Ann was short \$0.20, Bob \$0.30, and Cam \$0.50. All three combined their money together and bought 2 sandwiches, and still had \$1.20 left. How much does 1 sandwich cost, in dollars? _____(\$)

17. On the scales there are balls of equal weight, a pyramid, and two boxes (one with weight of 30g, and the other with weight of 15g (see figure)). How many grams does the pyramid weigh?



_____ (g) 17

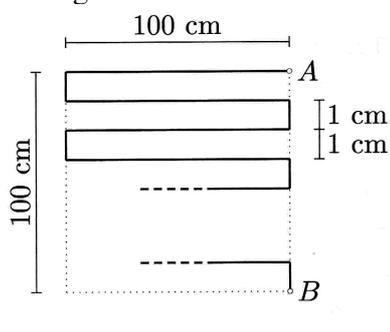
18. A drawer contains 40 socks in the following numbers and colors: 12 tan, 9 brown, 11 gray, and 8 blue. Without looking, what is the fewest number of socks one must pick from the drawer in order to be absolutely certain to have two socks of the same color among those picked? _____ 18

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19. Zilpa starts with the number 2, and counts by 3's until she reaches 5000.
 Her sequence is: 2, 5, 8, 11, ... , 2009, 2012, ... where 2 is the first number,
 5 is the second number, 8 is the third number and so forth.
 If 2009 is the N-th number, what is the value of N? _____ 19

20. In a store, fruit is sold only in baskets of 1 kg: a basket of kiwi costs 2 dollars,
 a basket of grapes 3 dollars, and a basket of strawberries 4 dollars.
 Jennifer wants to spend exactly 23 dollars to buy exactly 8 kg of fruit.
 What is the greatest number of kilograms of strawberries that she can buy? _____(kg) 20

21. How long is the zig-zag path from point A to point B (in cm)?
 The figure is not drawn to scale.



22. In Canada, 4% of the people can speak neither English nor French.
 If 81% can speak English, and 45% can speak French, how many
 percent of the people can speak both English and French? _____(%) 21

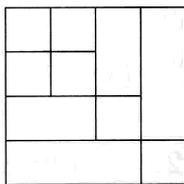
23. In the “magic-square” below, the number X, and four more numbers, are
 placed in the vacant spaces so that the sum of the three numbers in each
 row, in each column, and in each of the two main diagonals is the same.
 What is the value of X?

15	—	35
50	—	—
25	X	—

24. From a pile of coins containing pennies, nickels, dimes, and quarters, Tom picked 12 coins with a total
 value of less than 100 cents. The 12 coins had at least one coin of each type.
 What is the maximum possible value of these 12 coins (in cents)? _____(cents) 23

25. What is the greatest possible number of intersection points
 between 3 lines and 2 circles? _____ 24

26. How many squares are in the figure?



_____ 26