

Student Name: \_\_\_\_\_

1. How many seconds are in 2 hours?

$$2 \text{ hours} = 2 \times 60 \times 60 \text{ seconds} = \boxed{7200} \text{ seconds}$$

2. What is the **third largest** factor of 48? (1 and 48 count as factors)

The factors of 48 in decreasing order are 48, 24, 16, 12, 8, 6, 4, 3, 2, 1. Therefore, the third largest factor is  $\boxed{16}$ .

3. A, B, C, and D stand in a circle and say consecutive numbers in the following way: A says “1”, B says ”2”, C says “3”, D says “4”, A says “5”, B says “6” and so on. Who will say 35?

$$35 \div 4 = 8 \text{ with remainder } 3 \text{ which means } \boxed{C} \text{ (the third person) will say } 35.$$

4. David first spent half of his total allowance on a bike, and then he spent half of the **left over** allowance on books. At the end, he still had \$40 left. How much allowance did David have at the beginning?

Given David has \$40 left after all his spending, he had  $\$40 \times 2 = \$80$  before he spent on books. So the bike costs \$80, his original allowance is double of the price of the bike which is  $\$80 \times 2 = \boxed{\$160}$ .

5. How many multiples of 3 are there between 25 and 50?

The first multiple of 3 between 25 and 50 is 27, and the last one is 48. So  $(48 - 27) / 3 + 1 = \boxed{8}$  multiples of 3 between 25 and 50. The multiples are 27, 30, 33, 36, 39, 42, 45 and 48.

6. Alice, Daniel, and Cindy have 28 books in total. Alice has 11 books. Daniel has 3 more books than Cindy. How many books does Cindy have?

Let the number of book Cindy has be  $x$ . Then  $11 + (x + 3) + x = 28$ . Solving the equation  $x = 7$ . Therefore, Cindy has  $\boxed{7}$  books.

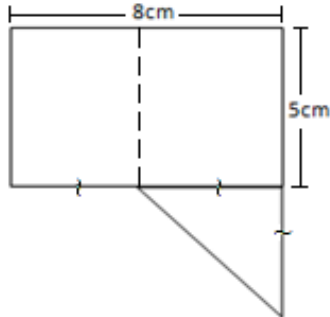
Alternatively, Alice has 11 books, so Daniel and Cindy together have  $28 - 11 = 17$  books. Since Daniel has 3 more books than Cindy, deducting the 3 extra books that Daniel has,  $17 - 3 = 14$ , Daniel and Cindy would have 14 books in total and each would have half of these, i.e.,  $14 / 2 = 7$  books. Therefore, Cindy has  $\boxed{7}$  books.

7. The result of  $(3 - 2) + (4 - 3) + (5 - 4) + \dots + (40 - 39)$  is

By order of operations, the expression becomes  $1 + 1 + \dots + 1$  with  $40 - 3 + 1 = 38$  one's. Therefore, the final answer is  $\boxed{38}$ .

Student Name: \_\_\_\_\_

8. The following combined shape is formed with a rectangle and a triangle. The rectangle has a length of 8cm and a width of 5cm. Given the lines with the squiggly tick marks have the same length, what is the total area of the combined shape?



The graph below shows all the measures for side lengths. The area of the rectangle is  $8\text{cm} \times 5\text{cm} = 40\text{ cm}^2$ . The area of the triangle is  $4\text{cm} \times 4\text{cm} / 2 = 8\text{cm}^2$ . Hence the combined area is **48** $\text{cm}^2$ .

