

Student Name: _____
Please write your name on *every* page.

1 Section A

A1

Adding 10 to a number will result in the number 57. What was the original number?

Solution. If adding 10 to a number gives 57, then subtracting 10 from 57 will give the original number. Thus $57 - 10 = 47$ was the original number.

Answer to A1: 47

A2

Annie lives in a rich family who owns 8 cars. If Bob’s family owns 3 cars and Claire’s family owns 2 cars, how many more cars does Annie’s family own than Bob’s family and Claire’s family combined?

Solution. If Bob’s family owns 3 cars and Claire’s family owns 2 cars, then combined the two families own 5 cars. Then $8 - 5 = 3$, and so Annie’s family has 3 more cars than the other two families combined.

Answer to A2: 3

A3

Eric wants to grow tomatoes in his rectangular-shaped backyard garden. The length of his garden is 4 m and the width of his garden is 6 m. If each tomato vine requires 1 m^2 of space to grow, what is the maximum number of tomato vines that he can fit inside the garden?

Solution. If the garden has length 4 m and width 6m, then it has area $4 \times 6 = 24 \text{ m}^2$. Since each tomato vine requires 1 m^2 of space to grow, we can fit at most 24 vines in the garden.

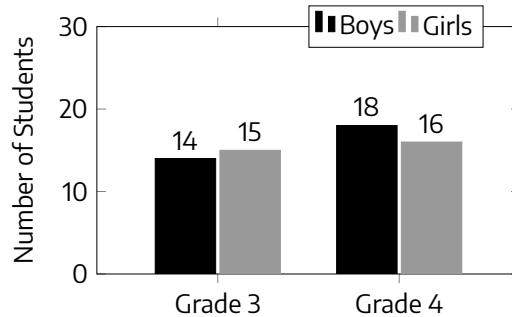
Answer to A3: 24

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A4

The graph below shows the number of boys and girls in the Grade 3 and Grade 4 classes at Hilbert Elementary School. How many students are in the Grade 4 class?



Solution. Reading the grade 4 part of the graph, we see that there are 18 boys and 16 girls. Then there are $18 + 16 = 34$ students in grade 4.

Answer to A4: 34

A5

Bani has to drive 220 km to visit some family members. If she drives the speed limit of 55 km per hour, how many hours will it take her to reach her family?

Solution. It will take her $220/55 = 4$ hours to reach her family (we can figure out to divide based on the units of her distance and speed).

Answer to A5: 4

A6

Six friends decide to pool their money together to buy something from the store. The first friend gives \$1, the second gives \$2, and so forth, up until the sixth friend who gives \$6. How much money do they have in total?

Solution. Summing the amounts contributed, we get $1 + 2 + 3 + 4 + 5 + 6 = 21$ (this can be worked out with a calculator).

Answer to A6: \$21

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A7

At Mathland Middle School, there are 20 students enrolled in English classes and 10 students in math classes. If there are 25 students total in the school and each student is enrolled in at least one of English and math, how many are enrolled in both?

Solution. There are $20 + 10 = 30$ students in both classes combined. But there are 25 students total, so there must be $30 - 25 = 5$ students taking both classes.

Answer to A7: 5

A8

A *fortnight* is two weeks. If today is the 4th day of the year, what day of the year will it be in two fortnights?

Solution. A week is 7 days, so a fortnight is two weeks, or $7 + 7 = 14$ days. Then two fortnights is $14 + 14 = 28$ days. Since we started on the 4th, we will end on the $4 + 28 = 32$ nd day of the year.

Answer to A8: 32nd