

Student Name: _____

Please write your name on *every* page.

Section A

A1

James has 2 pens. Jacob has 4 pens. How many pens do they have together?

Solution

$$2 + 4 = 6$$

Answer to A1: 6

A2

What is the value of $2 \times 0 \times 2 \times 4$?

Solution

Note that since any number multiplied by 0 is 0, this entire multiplication evaluates to 0

Answer to A2: 0

A3

A square has a side length of 4. What is the area of the square?

Solution

Recall that the formula for the area of a square is its side length squared. Thus, the area of the square is $4^2 = 16$

Answer to A3: 16

A4

I have 5 dollars. A donut costs 42 dollars. How many donuts can I buy?

Solution

0. As $5 < 42$, you cannot buy any donuts with 5 dollars

Student Name: _____

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Answer to A4: 0

A5

Charles is 78 years old today. If his daughter Celine was born when he was 20, and her birthday is before his, how old is Celine?

Solution:

Since Celine is born when Charles was 20, she should be $78 - 20 = 58$ years old this year. However this implies that Charles should be 78 years old this year. If Charles is supposed to be 79 this year, BUT it is not yet his birthday AND it is pass Celine’s birthday, then Celine would be 59 years old. Thus both 58 and 59 are valid answers.

Answer to A5: 58 or 59

A6

The chart below shows the results for the Waterloo Warriors basketball teams last 5 games.

| Game | Points |
|------|--------|
| 1 | 17 |
| 2 | 22 |
| 3 | 31 |
| 4 | 11 |
| 5 | 8 |

What is the total amount of points they scored?

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Solution:

Add up the points column to get $17 + 22 + 31 + 11 + 8 = 89$

Answer to A6: 89

A7

In a group of 18 kids, 10 like pizza while 14 like burgers. Assuming every kid likes at least one of pizza or burgers, how many kids like both pizza and burgers?

Solution:

Note that if there is a kid who likes pizza and burgers, then it takes 1 away from both the pizza and burger liker count. Thus, since $10 + 14 = 24$, which is 6 more than the number of kids, 6 kids have to like both burgers and pizzas.

Answer to A7: 6

A8

The “language number” of a shape is defined to be the the number of letters in the English spelling of the shape plus the number of sides it has. For example the “language number” of a triangle is $8 + 3 = 11$. What is the language number of a rectangle?

Solution

Rectangle has 9 letters in it, and the shape has 4 sides. $9 + 4 = 13$

Answer to A8: 13