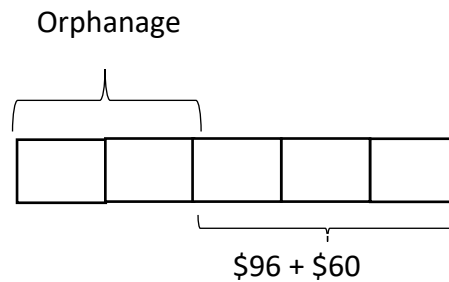# DOKA Paper Q (for Year Level 3-4)

Sample Questions

(Part A - Basic Reasoning)

Yaya is a kind-hearted lady. She donated $\frac{2}{5}$ of her weekly salary to the orphanage last month. She then donated $96 to the old folk's home and spent all the remaining $60 to buy food for street cats. What is the amount she donated to the orphanage (in $)?
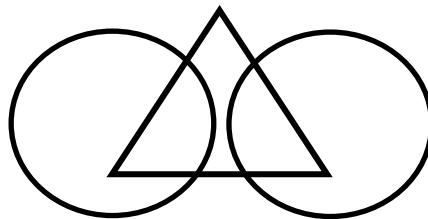
Solution:

Orphanage

$96 + $60

3 parts → $96 + $60 = $156
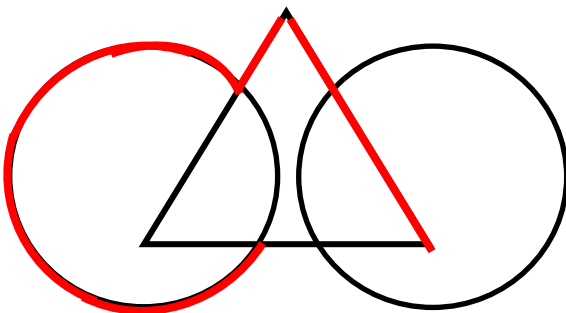
1 part → $156 ÷ 3 = $52

2 parts → $52 x 2 = **$104**

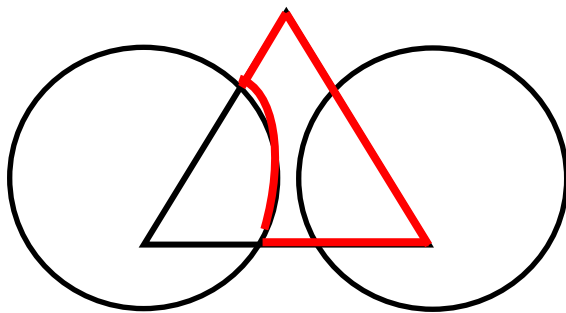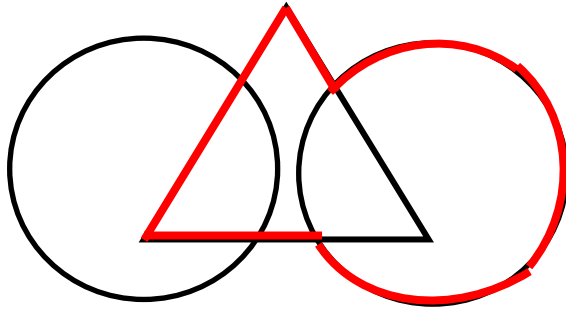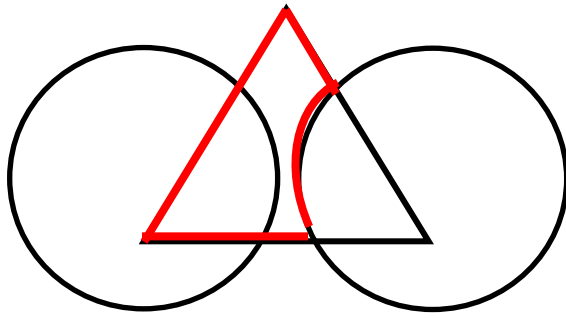**(Part B - Intermediate Reasoning: NVR)**

In the picture shown, how many closed figures are there with 3 straight sides and 1 curved side?
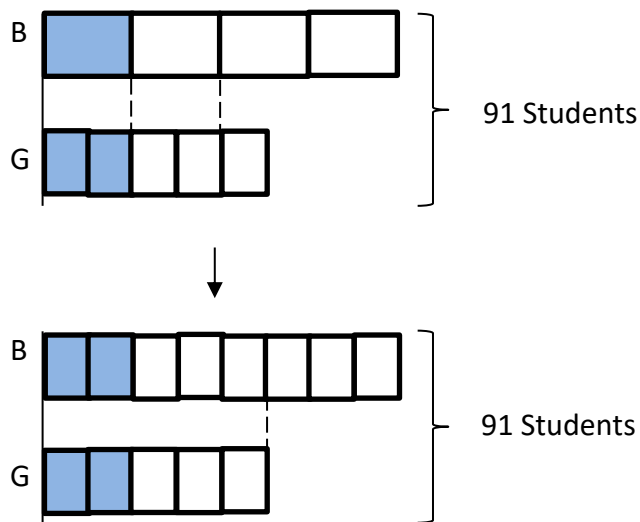

A.   2
B.   3
C.   4
D.   5
E.   6

Option **C**: 4 ways

In a party of 91 students, $\frac{1}{4}$ of the boys is equal to $\frac{2}{5}$ of the girls. By how many less girls than boys are there in the party?

Solution:

From diagram,

1 unit of boys = 2 parts of girl

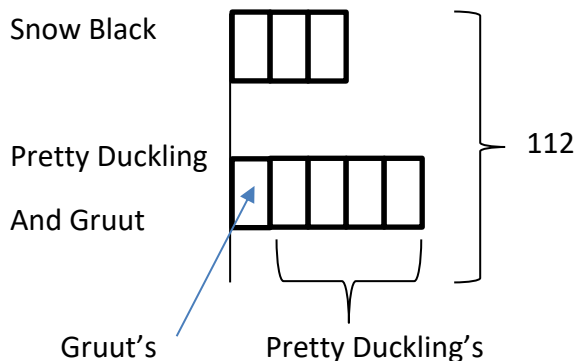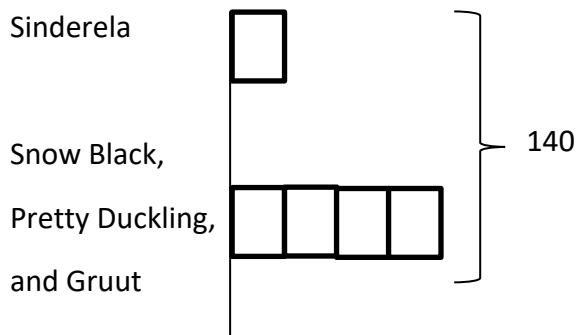therefore 4 units of boys = 8 parts

8 + 5 = 13 parts → 91 students

1 part → 91 ÷ 13 = 7

3 parts → 3 x 7 = **21** less girls

(Part D - Extended Reasoning)

Sinderela, Snow Black, Pretty Duckling, and Gruut are four best friends. They shared a total of 140 Invisible Stones. Sinderela had $\frac{1}{4}$ of the total number of Stones the other three friends had. Snow Black had $\frac{3}{5}$ of the total number of Stones that Pretty Duckling and Gruut had. Pretty Duckling had 4 times as many as Gruut. What is the product of the number of Gruut's Invisible Stones and Sinderela's?

Solution:

Sinderela

Snow Black,
Pretty Duckling,
and Gruut

140

5 parts → 140

Sinderela: 1 part → 140 ÷ 5 = **28**

Snow Black, Pretty Duckling, and Gruut:

4 parts → 28 x 4 = 112

Snow Black

Pretty Duckling
And Gruut

112

8 units → 112

1 unit → 112 ÷ 8 = 14

Pretty Duckling and Gruut: 5 units → 14 x 5 = 70

Gruut's   Pretty Duckling's

(This shows Pretty Duckling has 4 times as many as Gruut's.)
Gruut: 70 ÷ 5 = **14**   Pretty Duckling: 14 x 4 = 56

Product of number of Gruut's Invisible Stones and number of Sinderela's Invisible Stones
= **14** x **28**
= **392**