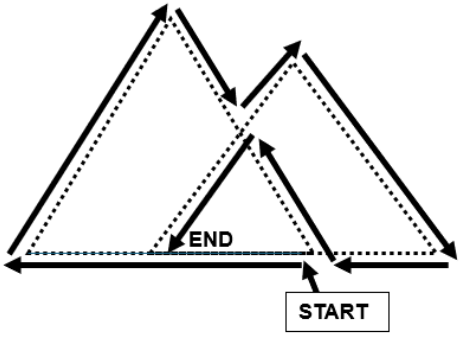
JULY '26 LOGIC Solutions

1) Can you trace the following shape without lifting your pencil off the page or crossing a pencil line or using the same segment twice? (Note: Show your trace clearly from START to END, and There can be more than one valid starting point.) **Answer:**



2) 300 exercise books are arranged into 3 piles. The first pile has 10 more books than the second pile. The second pile has twice the number of books as the third pile. How many books are there in the third pile?

Solution:

Let x = the number of books in pile #1.

Then, #1 pile = x; #2 pile = (x + 10) and #3 pile = (x + 10)/2

There sum = x + (x + 10) + (x + 10)/2 = 300

Multiplying by 2: 2x + 2(x + 10) + 2(x + 10)/2 = 2 * 300

Then, 2x + 2x + 20 + x + 10 = 600 or 5x = 600 – 30 = 570, 5x = 570, x = 114

Therefore, #3 pile = (x + 10)/2 = (114 + 10)/2 = 124/2 = **62 books** (**Answer**)

Check: #1 + #2 + #3 = 114 + 124 + 62 = 300 books

3) A true classic puzzle: If one and a half hens lay one and a half eggs in one and a half days, how many eggs does one hen lay in one day? **Solution:**

Then, **hens** = 1.5 hens
days = 1.5 days
eggs = 1.5 eggs

Using all hens' egg production rate (**'r'**) as an average and constant rate measured in eggs in one day for one hen.

Therefore, hens x days x **r** = eggs
1.5 x 1.5 x **r** = 1.5
2.25 **r** = 1.5 or **r** = 1.50 / 2.25 = 2/3

Answer: One hen lays 2/3 of an egg in 1 day or 2 eggs every 3 days.

Check = 2/3 + 2/3 + 2/3 = 6/3 = 2 eggs every 3 days.