

Learning, to help them learn

Seminar on Learning Disability and ADHD

25th June 2017

Country Inn & Suites, Patto Plaza, Panaji

Learning Disability (Part 4 of 5)

Dr Marita Adam & Purva Mandalik



Psychiatric Society
of Goa



Goa State Commission for
Protection of Child Rights



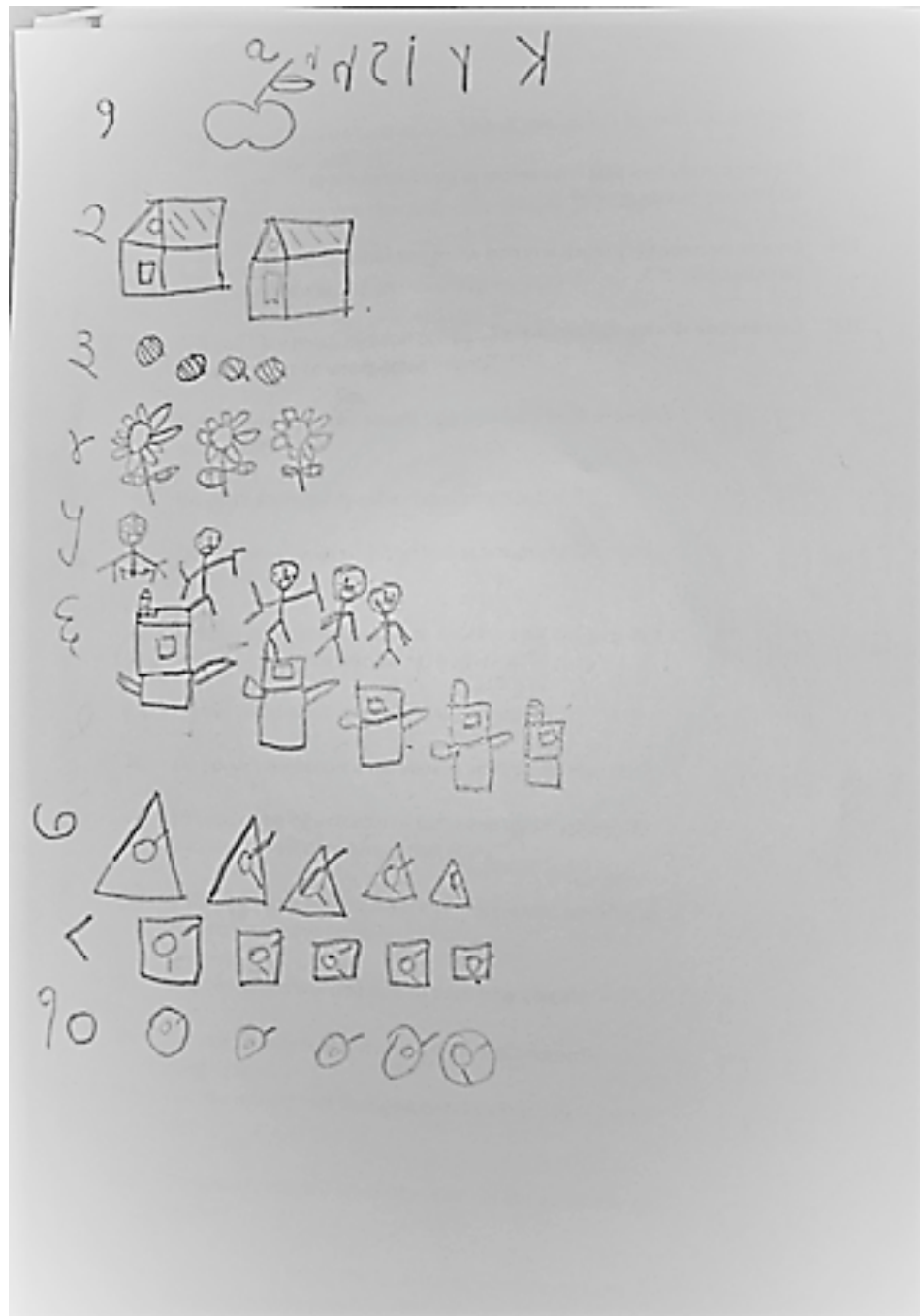
A N T A R M A N
*Centre for Psychosocial
wellbeing*

Mathematics

Dyscalculia

- Often missed in early years
- Children may learn language skills, but may not develop a number sense.

Difficulty in counting and value of numbers



After 2 years of interventions

A handwritten table on lined paper. The table has three columns. The first column lists numbers from 1 to 10. The second column lists values: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20. The third column lists values: 21, 22, 23, 24, 25, 26, 27, 28, 29, 30. The table is written in blue ink. At the top right, there is a signature 'Krishna' and a date 'Date'. At the top left, there is a date '4/9/95'.

1	11	21
2	12	22
3	13	23
4	14	24
5	15	25
6	16	26
7	17	27
8	18	28
9	19	29
10	20	30

Shows difficulty understanding concepts, even after repeated teaching and practice

Before/after and Value of numbers

1. Fill in the blank with the missing number.

26, 27, 28 ✓

72, 73, 74 ✓

207, 280, 209

2. Fill in the blank with the missing symbol using $<$, $>$, or $=$

45 = 54

156 < 156

47 = 87

Slow in calculation

7th Std Student

$$\begin{array}{r} 825 \\ - 79 \\ \hline 56 \end{array}$$

$$\begin{array}{r} 84 \\ - 68 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 315 \\ - 92 \\ \hline 223 \end{array}$$

$$\begin{array}{r} 53 \\ + 16 \\ \hline 69 \end{array}$$

$$\begin{array}{r} 32 \\ + 21 \\ \hline 53 \end{array}$$

$$\begin{array}{r} 34 \\ + 23 \\ \hline 57 \end{array}$$

$$\begin{array}{r} 34 \\ + 23 \\ \hline 57 \end{array}$$

4th Std Student

29/10/2015

$$\begin{array}{r} 6 \\ + 4 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 2 \\ + 1 \\ \hline 3 \end{array}$$

$$\begin{array}{r} 5 \\ + 1 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 6 \\ + 1 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 5 \\ + 2 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 6 \\ + 2 \\ \hline 8 \end{array}$$

Difficulty with Multiplication tables

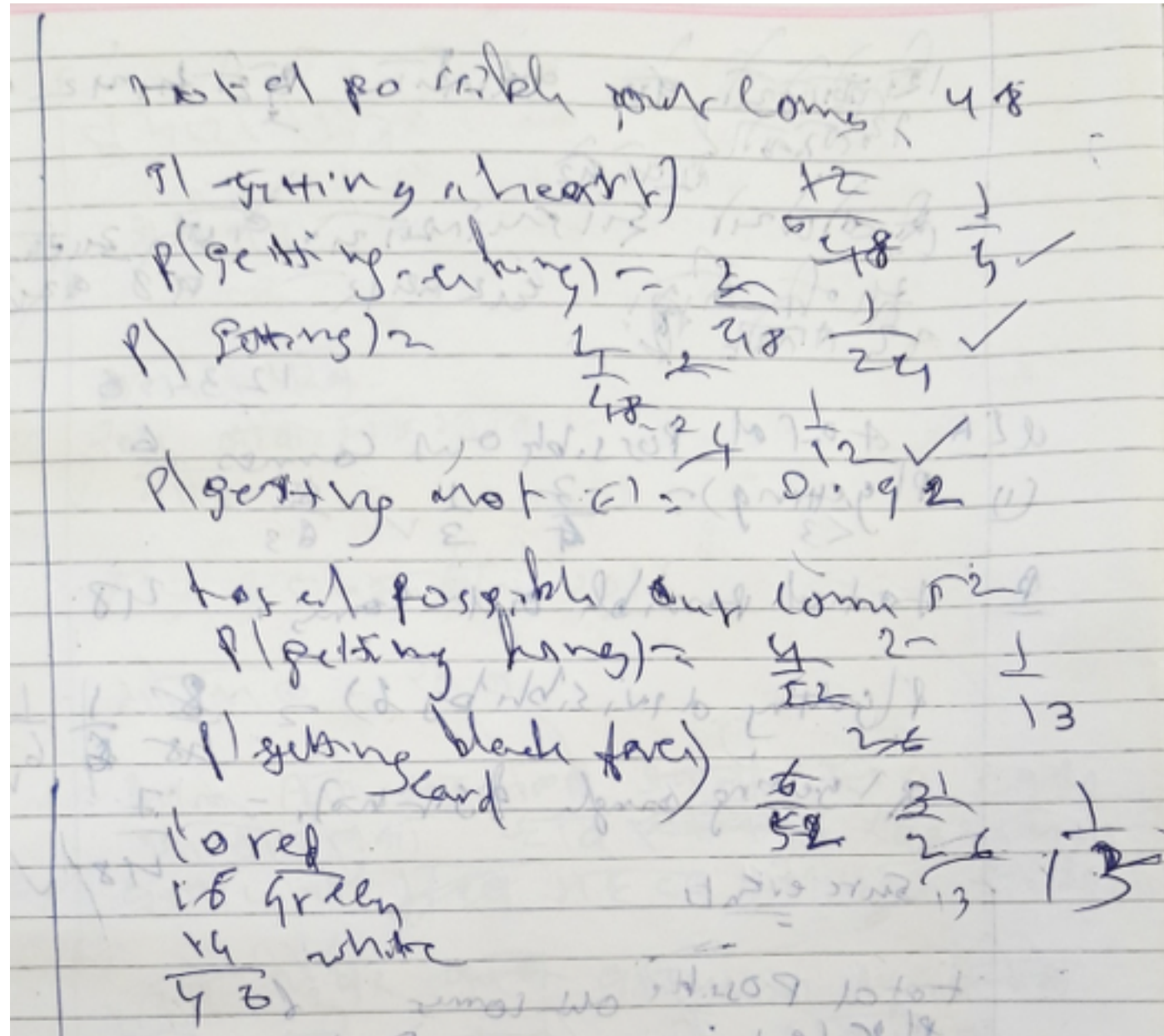
1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	4	6	8	10	12	14	16	18	20	22	24	26	28
3	6	9		15				27	30				
4	8		12	20				36	40				
5	10			25				45	50				
6	12			30				54	60				
7	14			35				63	70				
8	16			40				72	80				
9	18			45				81	90				
10	20	30	40	50	60	70	80	90	100	110	120	130	140
11	22			55				108	120	8			
12	24			60				118	120	9			
13	26			65				127	130				
14	28			70				136	140				

48

$$\begin{array}{r|l} 6 & 48 \\ 2 & 6 \\ 2 & 2 \\ & 1 \end{array}$$

$48 = 6 \times 2 \times 2$
 $= 24$

Fine motor or eye hand coordination difficulties



Signs, Zeroes and Decimals

$(m, -6)$ lies on $3x - 2y = 12$

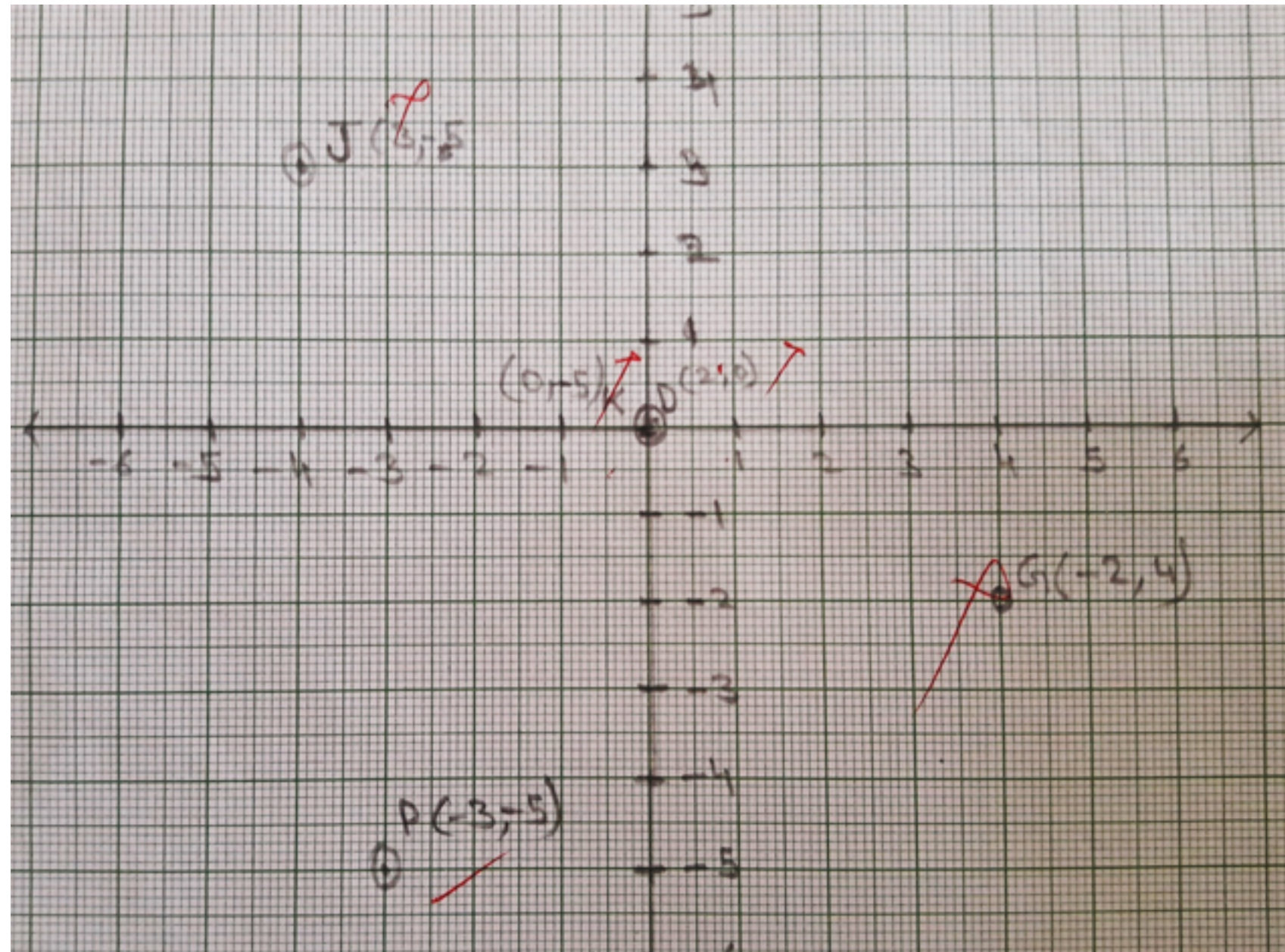
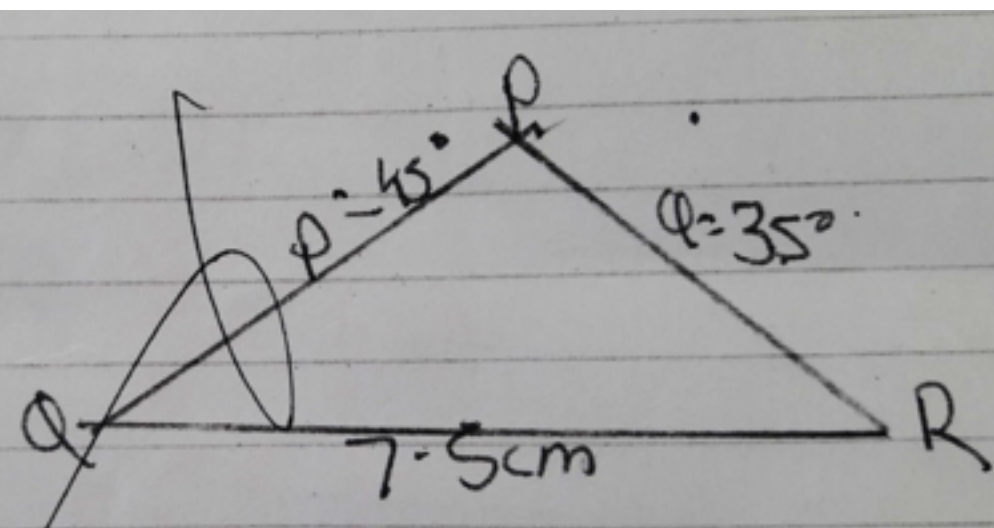
$$\begin{aligned} 3x - 2y &= 12 \\ 3x - 2(-6) &= 12 \\ 3x - 12 &= 12 \\ 3x &= 12 + 12 \\ 3x &= 24 \\ 3x &= 24 \\ x &= \frac{24}{3} \\ x &= 8 \end{aligned}$$

$3x - 2y = 12$
 $3x - 2(-6) = 12$
 $3x + 12 = 12$
 $3x = 12 - 12$
 $3x = 0$
 $x = \frac{0}{3} = 0$

$$\begin{array}{r} 50 \\ \times 40 \\ \hline 2000 \\ \hline \end{array}$$
$$30 \overline{) 1500}$$
$$\begin{array}{r} 50 \\ 1500 \div 30 \\ \hline 1 \end{array}$$

Directionality (Spatial) Errors

$$\begin{array}{r} 615 \\ + 435 \\ \hline 1050 \end{array}$$
$$\begin{array}{r} 524 \\ + 573 \\ \hline 1097 \end{array}$$



Difficulty in procedure

The image shows a handwritten algebraic simplification on lined paper. The steps are as follows:

- Line 1: $3y + (2y - 4) + 8$
- Line 2: $3y + 2y - 4 + 8$ (A red checkmark is next to the plus sign between $3y$ and $2y$)
- Line 3: $3y 8y - 4 + 8$ (A red checkmark is next to the plus sign between $3y$ and $8y$)
- Line 4: $5y + 4$ (This line is circled in black and has a large red 'X' over it, indicating it is incorrect)
- Line 5: $9y$ (This line is also circled in black and has a red 'X' over it, indicating it is incorrect)

Red arrows point from the circled lines back to the previous line, highlighting the error in the simplification process.

Word problems - Difficulty in Understanding language

Word Problems (Use the number line to help you.)

1. Jane has 9 balloons. 6 are green and the rest are blue. How many balloons are blue?

~~$9 - 6 = 3$~~ $9 - 6 = 3$ balloons are blue?

2. Sam ate 7 cookies and Jane ate 2 cookies. How many more ~~candy canes~~ cookies did Sam eat than Jane?

$7 - 2 = 5$