

This framework shows the solution to problems similar to the following:

Every day, Robin and Tim each save at a constant rate. If, on a certain day, Robin has \$6 and Tim has \$10, then how much will Tim have when Robin has \$21?

	Robin	Tim	
	3	5	
2	6	10	2
7	21	35	7
	3	5	

(d) Proportion Quartet (PQ)
factored outside

PQ as selected RT rows (here, rows 2 and 7)

PQ as "mini-MT"

1	2	3	4	5	6	7	8	9	10
2	4	6	8	10	12	14	16	18	20
3	6	9	12	15	18	21	24	27	30
4	8	12	16	20	24	28	32	36	40
5	10	15	20	25	30	35	40	45	50
6	12	18	24	30	36	42	48	54	60
7	14	21	28	35	42	49	56	63	70
8	16	24	32	40	48	56	64	72	80
9	18	27	36	45	54	63	72	81	90
10	20	30	40	50	60	70	80	90	100

(a) Multiplication Table (MT)

Rate as single MT column

	1	3
0	0	0
1	3	9
2	6	18
3	9	27
4	12	36
5	15	45
6	18	54
7	21	63
8	24	72
9	27	81
10	30	90

Every day, Robin puts \$3 in her cat bank.

(b) Rate Table

Day 1	3	5
0	0	0
1	3	5
2	6	10
3	9	15
4	12	20
5	15	25
6	18	30
7	21	35
8	24	40
9	27	45
10	30	50

Every day, Robin puts \$3 in her cat bank, and Tim puts \$5 in his doggy bank.

(c) Ratio Table (RT)

RT as two simultaneous rate columns

Fig. 1 Designed framework for conceptualizing ratio and proportion. From left and counterclockwise: (a) the multiplication table (MT), (b) rate table, (c) ratio table (RT), and (d) proportion quartet (PQ). Products and cells of a specific example problem on the top left are enhanced here for illustration.