

Math 4a HW 2.

1. $7 \cdot (10 + 5) = 7 \cdot 10 + 7 \cdot 5 = 70 + 35 = 105$

a. $7 \cdot (10 + 5) = 7 \cdot 15 = 105$

b. $3 \cdot (25 - 5) = 3 \cdot 25 - 3 \cdot 5 = 75 - 15 = 60$

$3 \cdot (25 - 5) = 3 \cdot 20 = 60$

c. $(2 + 7) \cdot 5 = 2 \cdot 5 + 7 \cdot 5 = 10 + 35 = 45$

$(2 + 7) \cdot 5 = 9 \cdot 5 = 45$

2. a. $(972 + 379) - 972 = 972 - 972 + 379 = 379$

b. $(382 + 417) - 416 = 382 + 417 - 416 = 382 + 1 = 383$

c. $851 - (831 + 7) = 851 - 831 - 7 = 20 - 7 = 13$

d. $134 - 98 - 2 = 134 - 100 = 34$

$$e. (538 + 245) - 245 = 538 + 245 - 245 = 538$$

$$f. (725 + 158) - 625 = 725 - 625 + 158 = 100 + 158 = 258$$

$$g. 276 - (18 + 176) = 276 - 18 - 176 = 100 - 18 = 88$$

$$h. 580 - 79 - 21 = 580 - 100 = 480$$

#3.

$$a. 23 \cdot 15 + 15 \cdot 77 = 15(23 + 77) = 15 \cdot 100 = 1500$$

$$b. 79 \cdot 21 - 69 \cdot 21 = 21(79 - 69) = 21 \cdot 10 = 210$$

$$c. 340 \cdot 7 + 16 \cdot 70 = 34 \cdot 70 + 16 \cdot 70 = (34 + 16) \cdot 70 = \\ = 50 \cdot 70 = 3500$$

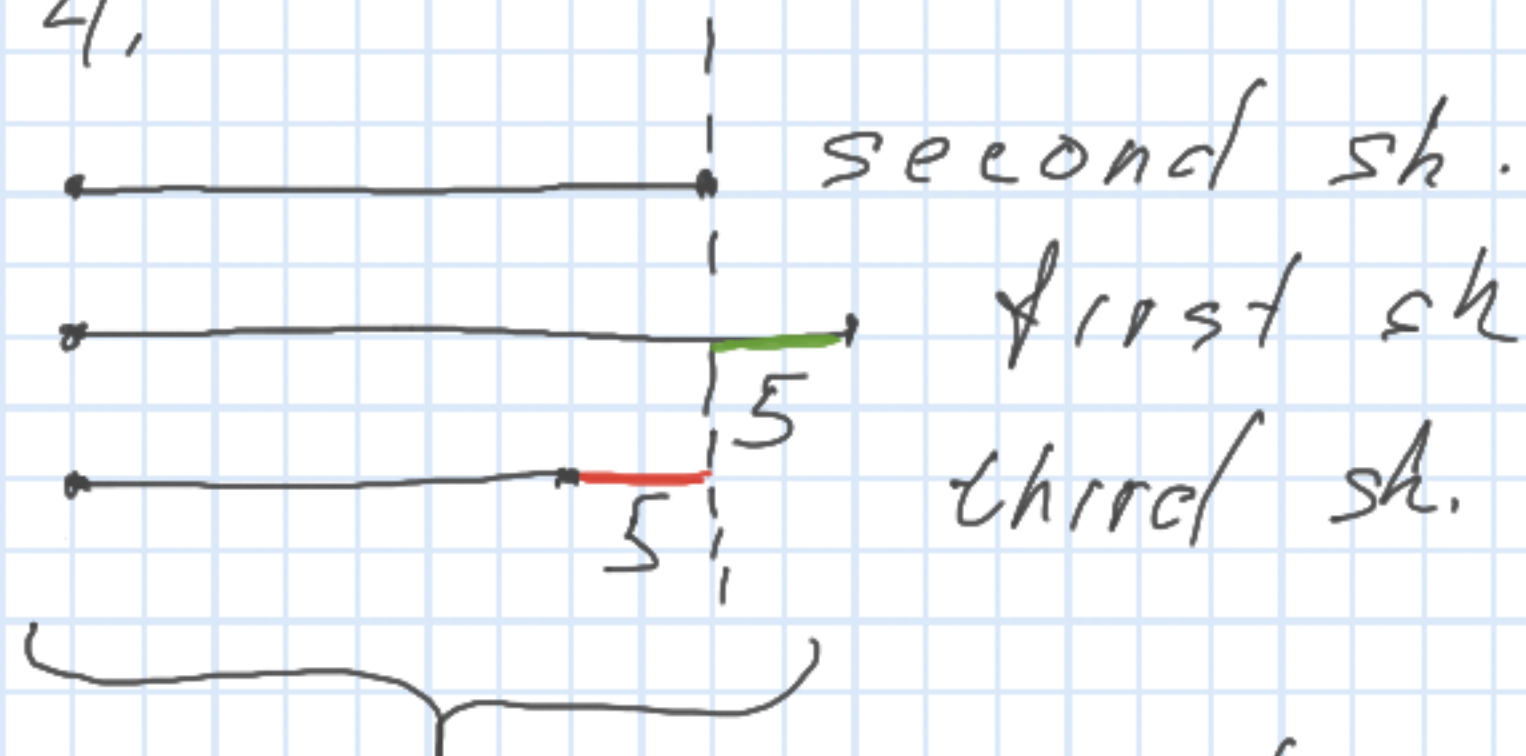
$$d. 250 \cdot 61 - 25 \cdot 390 = 250 \cdot 61 - 250 \cdot 39 = \\ \underbrace{25 \cdot 39 \cdot 10}_{25 \cdot 39 \cdot 10} = 250(61 - 39) = 250 \cdot 22 \\ = 5500$$

$$e. 67 \cdot 58 + 33 \cdot 58 = 58(67 + 33) = 58 \cdot 100 = 5800$$

$$f. \quad 55 \cdot 682 - 45 \cdot 682 = 682(55 - 45) = 682 \cdot 10 = 6820$$

$$\begin{aligned} g. & \quad \underbrace{26 \cdot 25 - 25 \cdot 24} + \underbrace{24 \cdot 23 - 23 \cdot 22} + \underbrace{22 \cdot 21 - 21 \cdot 20} + \\ & \quad + \underbrace{20 \cdot 19 - 19 \cdot 18} + \underbrace{18 \cdot 17 - 17 \cdot 16} + \underbrace{16 \cdot 15 - 15 \cdot 14} = \\ & \quad = 25(26 - 24) + 23(24 - 22) + 21(22 - 20) \\ & \quad + 19(20 - 18) + 17(18 - 16) + 15(16 - 14) = \\ & \quad = 25 \cdot 2 + 23 \cdot 2 + 21 \cdot 2 + 19 \cdot 2 + 17 \cdot 2 + 15 \cdot 2 = \\ & \quad = 2 \cdot (25 + 23 + 21 + 19 + 17 + 15) = \\ & \quad = 2 \cdot (25 + 15 + 23 + 17 + 21 + 19) = \\ & \quad = 2 \cdot (40 + 40 + 40) = 2 \cdot 3 \cdot 40 = 6 \cdot 40 = 240 \end{aligned}$$

4,



105 books.

The total number of books is the same as 3 times the number of books on the second shelf.

$$105 : 3 = 35$$

On the first shelf there are 40 books

On the second shelf there are 30 books.

(The problem can be solved also as:

x - number of books on the second shelf

$x + 5$ - on the 1st

$x - 5$ - on the 3rd.

$$x + x + 5 + x - 5 = 105$$

$$3x = 105$$

$$x = 105 : 3 = 35.$$

if you know how to write and solve equations)

#5

$$256 \cdot 37 + 256 \cdot 63 = 256(37 + 63) = 256 \cdot 100 \\ = 25600 \text{ minutes.}$$

#6.

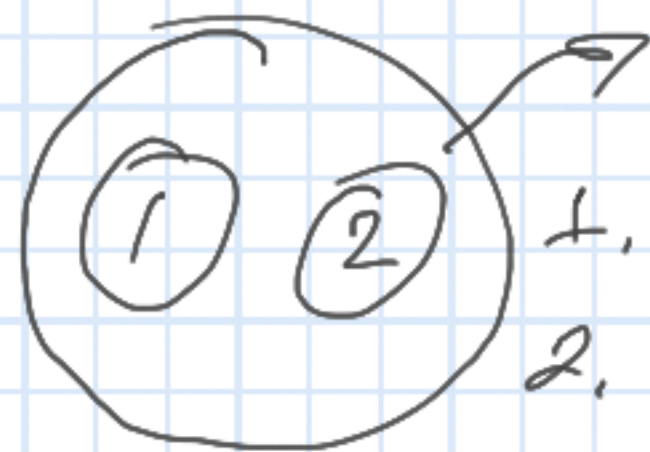
3	4	1	2	5
2	5	3	4	1
4	1	2	5	3
5	3	4	1	2
1	2	5	3	4

Only 1 can be placed into low left corner

Only 2 is suitable for the central cell.

(You can fill the table, if you want, but the problem asks only about central cell.)

#7.



1. Hamburgers 1 and 2, one side 2 min.
2. Remove Ham. 2. Flip ham. 1, place Ham. 3 on the pan) 2 min



3. Ham. 1 is ready, put Ham 2 uncooked side down, flip Ham 3 2 min.

6 min