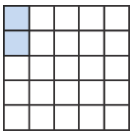
Math 5b, homework 1.

1. Is it possible to cover a 5×5 area with 1×2 tiles?



2. Fill in the empty cell in the table:

dividend	a	29		46	94
divisor	b	7	9		9
quotient	c	4	7	3	
remainder	r		5	1	4

Check the formula $a = b \cdot c + r$ for each number in the table.

3. *Example: The sum of two natural number is 54. First number gives a remainder of 11 when divided by 17, the second gives a remainder 9 when divided by 17. What are these numbers?*

First number is equal to $x \cdot 17 + 11$

Second number is equal to $y \cdot 17 + 9$

The sum of these two numbers $x \cdot 17 + 11 + y \cdot 17 + 9 = 54$

$$x \cdot 17 + y \cdot 17 + 20 = 54$$
$$x \cdot 17 + y \cdot 17 = 54 - 20 = 34$$

We can factor 17 out of the sum:

$$17 \cdot (x + y) + 20 = 54$$
$$17 \cdot (x + y) = 54 - 20 = 34$$
$$x + y = 34 : 17 = 2$$

So, both quotients are 1. First number is $1 \cdot 17 + 11 = 17 + 11 = 28$, *and the second number is* $1 \cdot 17 + 9 = 26$

4. The sum of two natural number is 48. First number gives a remainder of 14 when divided by 19, the second gives a remainder 15 when divided by 19. What are these numbers?

5. Apples lose 85% of their weight when dried. How many dried apples can be made from 200 kg of fresh apples.

6. Mushrooms lose 90% of their weight when dried. How many fresh mushrooms did it take to get 5 kg of dried mushrooms.

7. Evaluate:

$$\left(4\frac{1}{6}\cdot 3\right):\left(7\cdot\frac{5}{21}\right)-1\frac{3}{4}\cdot 4$$