Lesson 21

Homework

1 **In your notebook,** solve the equations and check the answer. Copy your answers here.

$800 - x = 162$	$x + 487 = 503$	$x - 58 = 679$
$x =$ 638	$x =$ 16	$x =$ 737

2 **Open up** the parentheses:

$(56 + s) + (d + 15) =$ 71+s+d	$k - (b + m) =$ k-b-m
$(n + 4) - (a + b + c) =$ n-4-a-b-c	$(d + f) - (s - w) =$ d+f-s+w
$a - (45 - b) =$ a-45+b	$(170 - e) - (80 - a) =$ 90-e+a

3 Write an expression for each problem:

A factory packs **x** gift boxes each day. How many gift boxes will it pack in **q** days? x×q

A factory packs **x** gift baskets each day. How long will it take to pack **z** baskets? z ÷ x

A train moves ***v*** kilometers each hour. How far will it move in ***t*** hours? v×t

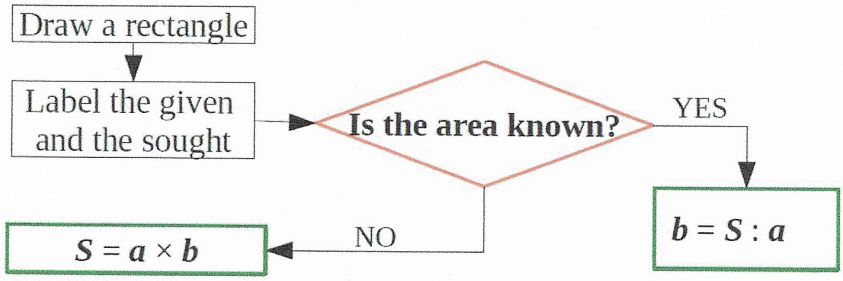
A train moves ***v*** kilometers each hour. How long will it take to move ***d*** kilometers? d ÷ v

4 Fill in missing numbers:

8 × 9 = 72	8 × 7 = 56	4 × 6 = 24	3 × 8 = 24	6 × 8 = 48
4 × 7 = 28	9 × 3 = 27	8 × 5 = 40	4 × 4 = 16	3 × 4 = 12
4 × 8 = 32	6 × 5 = 30	9 × 7 = 63	3 × 6 = 18	9 × 9 = 81

5 You have twelve coins that appear to be exactly the same. One of the coins is fake and has a different weight. What is the minimum amount of weighings you will need to do to find the counterfeit coin If you know that it is lighter than the real one? 3

6 Solving word problems about rectangles:



A side of a rectangle is 5 dm. What is the other side of the rectangle if its area is 30 dm²?

30 dm²

One side of a rectangle is 7 cm. Another side is 4 cm. What is the area of the rectangle?

____ cm²

The area of a rectangle is 24 m². What is the width of the rectangle if its length is 8 m?

7 An engineer has proposed the design for Wonderburg's subway network.

How many lines did he propose? Trace them to help you. 5 lines

How many lines pass through the station "Odin"? 2

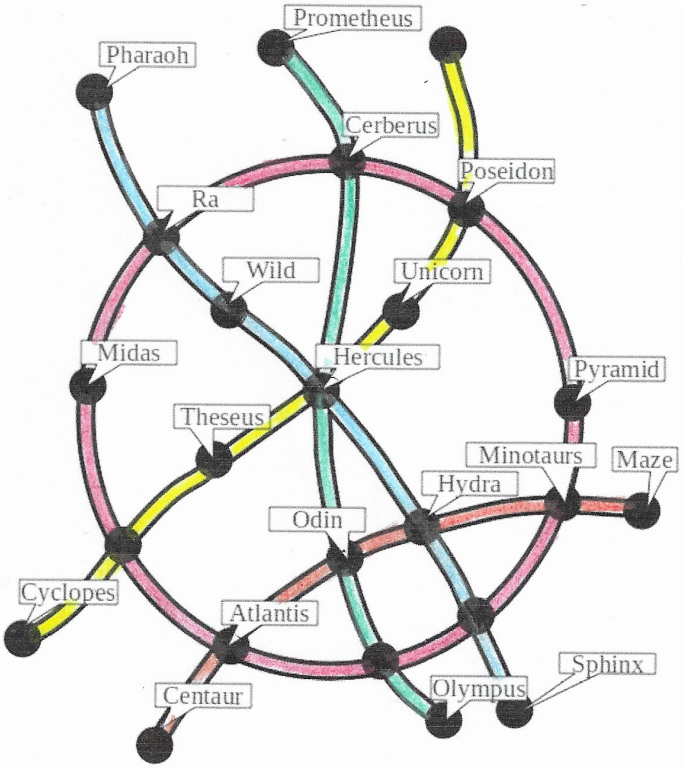
How many through the station "Hercules"? 3

What stations should one pass through to get from "Theseus" to "Olympus"? 3 stations

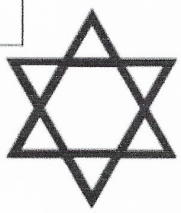
What is the shortest way to get from "Pyramid" to "Ra"? Red line

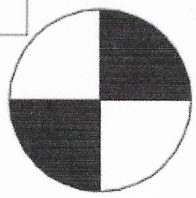
How many different ways can you go from "Pyramid" to "Ra" with only one transfer? 1

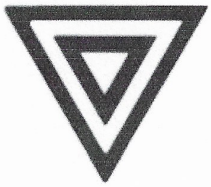
How many different ways can you get from "Midas" to "Hercules" with only one transfer? 6

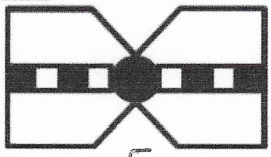


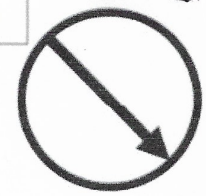
8 State the order of the rotational symmetry for each shape below.

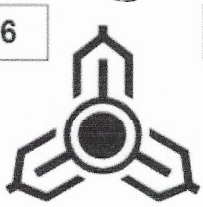
1  6

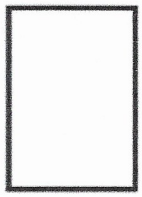
2  2

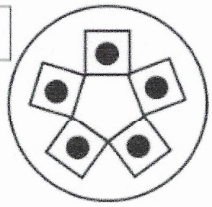
3  3

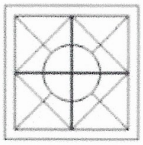
4  2

5  1

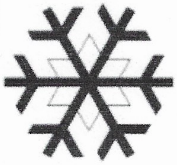
6  3

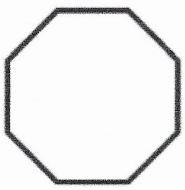
7  2

8  5

9  4

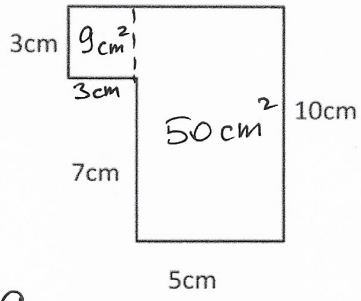
10  1

11  6

12  8

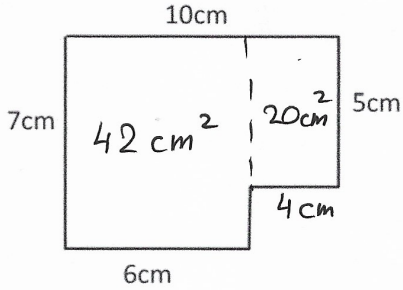
9 Work out the area of the following shapes by dividing them in rectangles.

1)



Area = 59 square cm (cm²)

2)

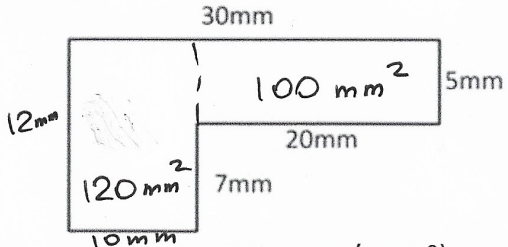


S = a × b

S = S₁ + S₂

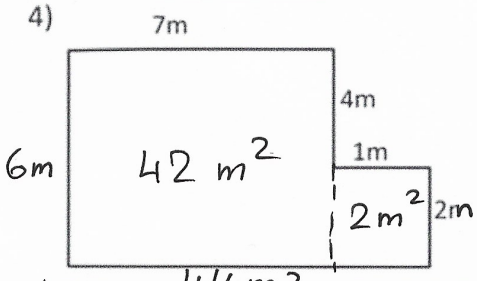
Area = 62 cm² square cm (cm²)

3)



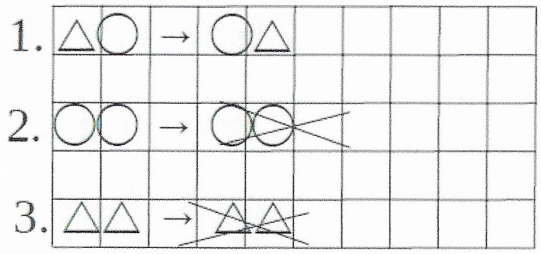
Area = 200 mm² square mm (mm²)

4)

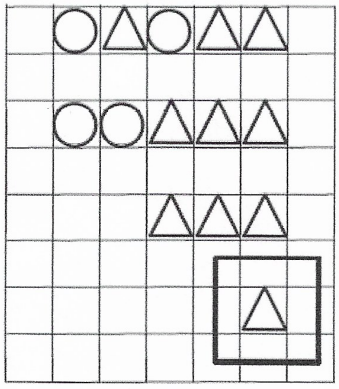


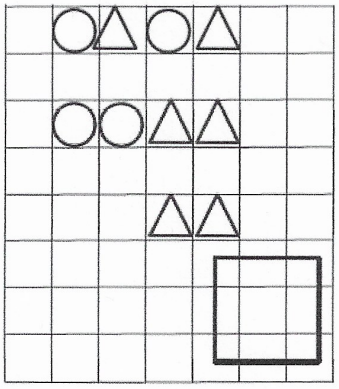
Area = 44 m2 square m (m²)

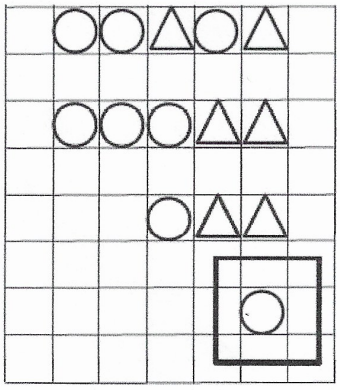
10 Once upon a time the people of a kingdom only wrote using circles and triangles. They were communicating to each other using long words that consisted of squares and triangles. The king became angry and decreed the 3 rules to simplify the writing:



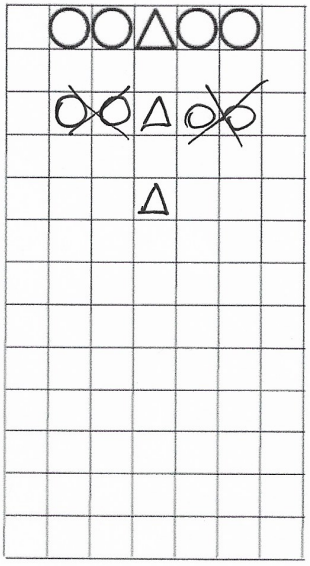
First, rule 1 has to be used as many times as possible, then the same applies to rules 2 and 3. Inspect if the following words were transformed correctly:

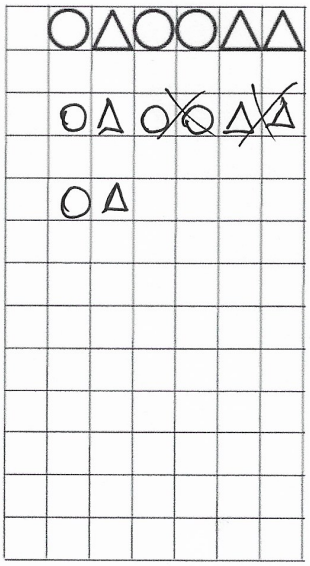


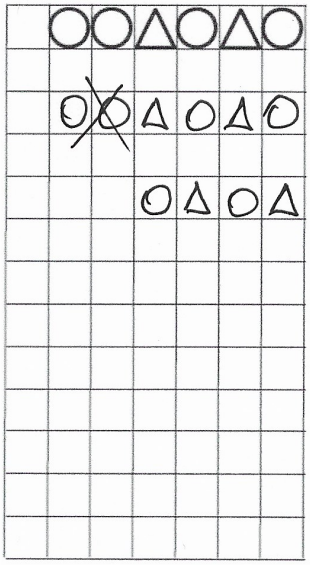




Transform the following words using the three royal rules:



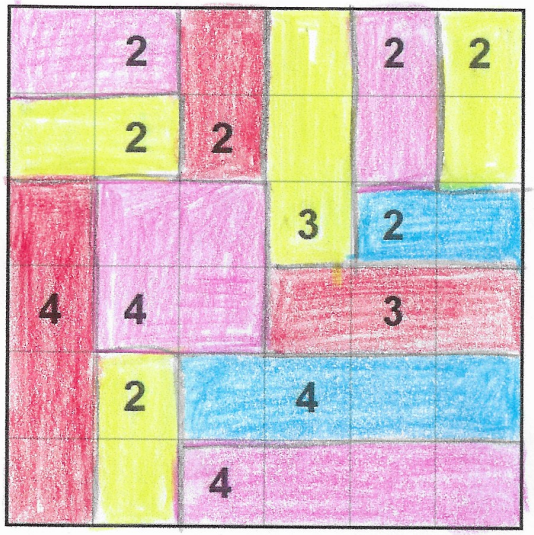


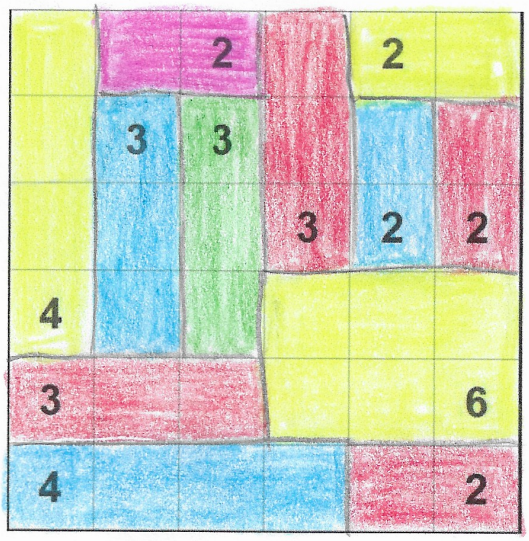


11 Do you remember mice rugs story we discussed in class?
Their Grand-Grand Mother likes when all floor in the mouse hole is covered with nice beautiful rugs. Rugs are different in size, but The Grand-Grand-Ma requested that:

1) all rugs should be rectangular,
2) they can't overlap with each other, and
3) all floor surface should be covered with the rugs.

Mice started to prepare for Grand-Grand-Ma next visit. Foxy Tail and Little Joe have been responsible for rugs this year. Can you help Little Joe and Foxy Tail in this room?





12 Color the shapes in the correct order according to the schemes.