Homework for Lesson № 23

1 Make any needed drawings to solve the word problems:

A. Seven boxes contain 28 kg of apples. How many boxes contain 36 kg of apples?

_____

_____

B. Seven boxes contain 28 kg of apples. How many boxes contain ***w*** kg of apples?

_____

_____

C. Seven boxes contain ***y*** kg of apples. How many boxes contain ***w*** kg of apples?

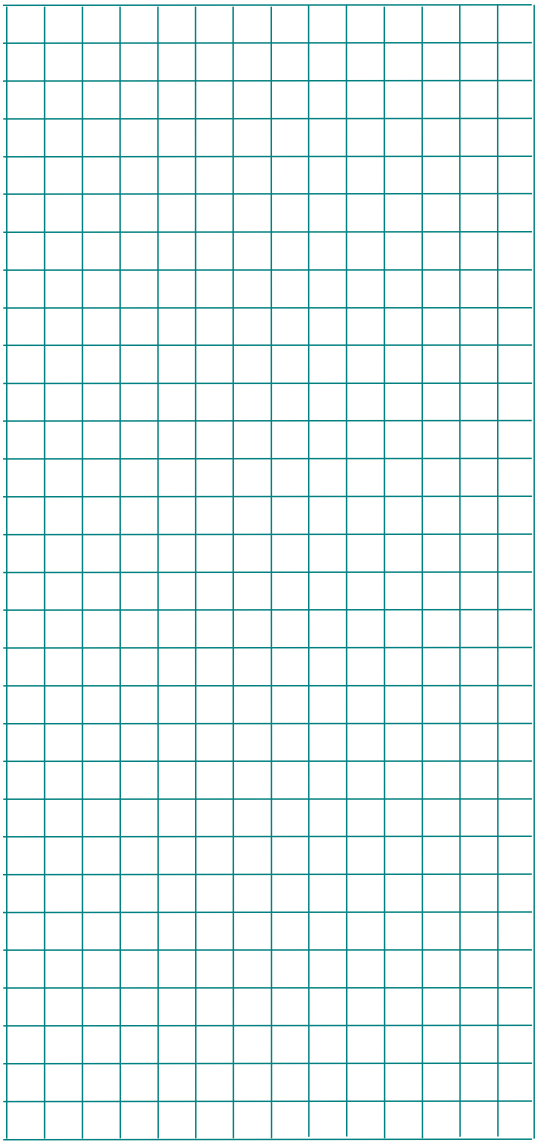
_____

_____

D. ***m*** boxes contain ***y*** kg of apples. How many boxes contain ***w*** kg of apples?

_____

_____



2 Do each problem **in your notebook** and copy your results here:

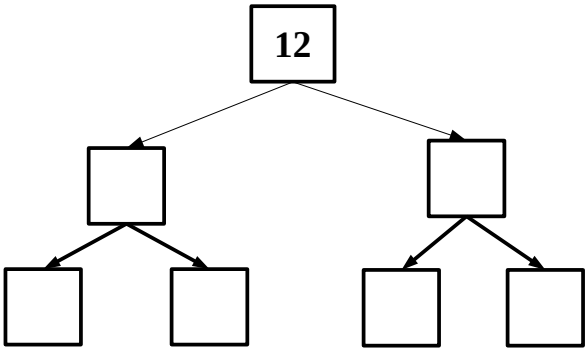
a). 204 ÷ 12 = _____ 1890 ÷ 42 = _____ 546 × 21 = _____

b). $43 = 7 - 3x$ $14 - x : 3 = 4$ $24 - 20 : x = 19$

x = _____ x = _____ x = _____

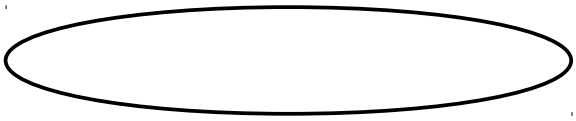
c). *When five times a number is decreased by 1, it has the same value as four times the number increased by 10. What is the number?* _____

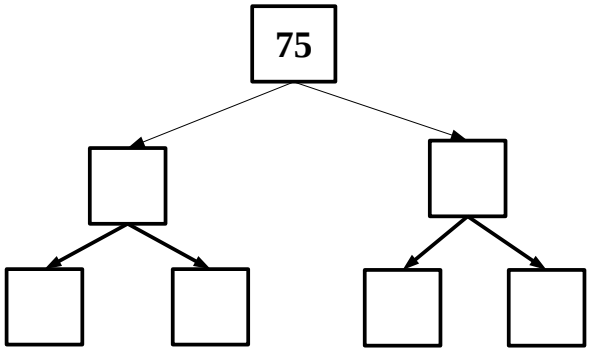
3 Using the tree method find the sets of prime factors for each of the following numbers: 12, 75, 24, 16. Write these factors into Venn Diagrams. **Note,** sometimes you might not need all squares. Other times you might actually have to draw additional squares to complete the task.



12 = __ × __ ×__ ×__

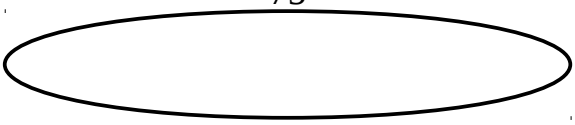
12

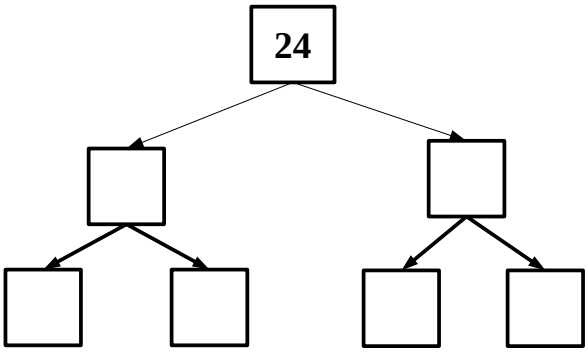




75 = __ × __ ×__ ×__

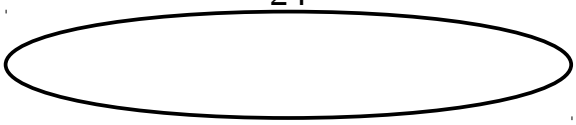
75

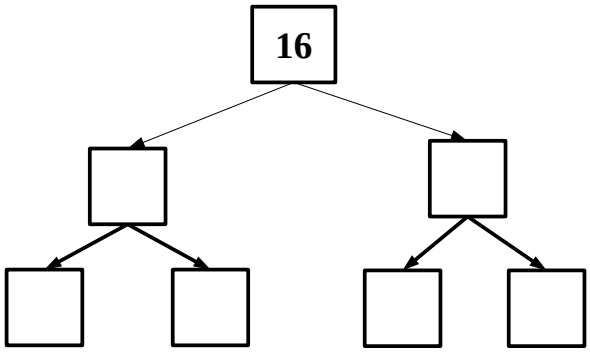




24 = __ × __ ×__ ×__

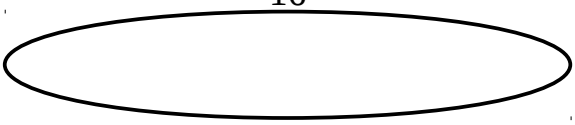
24



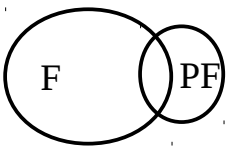


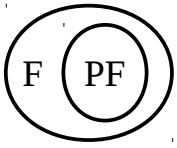
16 = __ × __ ×__ ×__

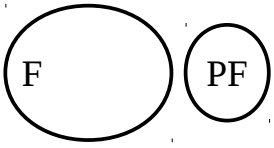
16



4 Which diagram represents the sets of all factors of a number and the set of its prime factors?







5 Solve the equations:

$\frac{2}{5}x = 14$

$\frac{1}{5}x =$

$x =$

$x =$ ✔

$\frac{3}{4}x = 18$

$\frac{1}{4}x =$

$x =$

$x =$ ✔

$\frac{1}{7}x - 2 = 1$

$\frac{1}{7}x =$

$x =$

$x =$ ✔

6 Calculate:

$9 \times \frac{2}{3} = 9 : 3 \times 2 =$

$20 \times \frac{1}{4} = 20 : 4 \times 1 =$

$8 \times \frac{3}{2} = 8 : 2 \times 3 =$

$18 \times \frac{5}{6} = 18 \times 5 : 6 =$

$14 \times \frac{4}{7} = 14 : 7 \times 4 =$

$9 \times \frac{1}{3} = 9 \times 1 : 3 =$

$20 \times \frac{3}{5} = 20 : \square \times \square =$

$12 \times \frac{1}{4} = 12 \times \square : \square =$

$8 \times \frac{3}{4} = 8 : \times =$

$\frac{1}{5} + \frac{1}{5} =$

$\frac{2}{5} + \frac{1}{5} =$

$\frac{3}{5} + \frac{1}{5} =$

$\frac{2}{5} + \frac{2}{5} =$

$\frac{1}{7} + \frac{1}{7} =$

$\frac{2}{7} + \frac{3}{7} =$

$\frac{1}{7} + \frac{5}{7} =$

$\frac{2}{n} + \frac{1}{n} =$

$\frac{1}{4} \times 3 = \frac{\square}{\square}$

$\frac{1}{n} \times 7 = \frac{\square}{\square}$

$\frac{1}{n} \times 5 = \frac{\square}{\square}$

$\frac{1}{n} \times p =$

$17 \times 12 : 17 =$

$19 \times 11 : 11 =$

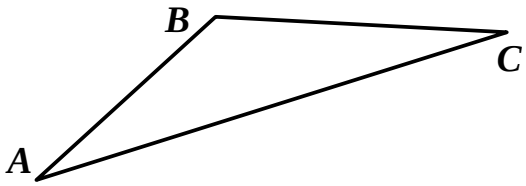
$31 \times 13 : 31 =$

$5 \times 13 \times 12 : 13 =$

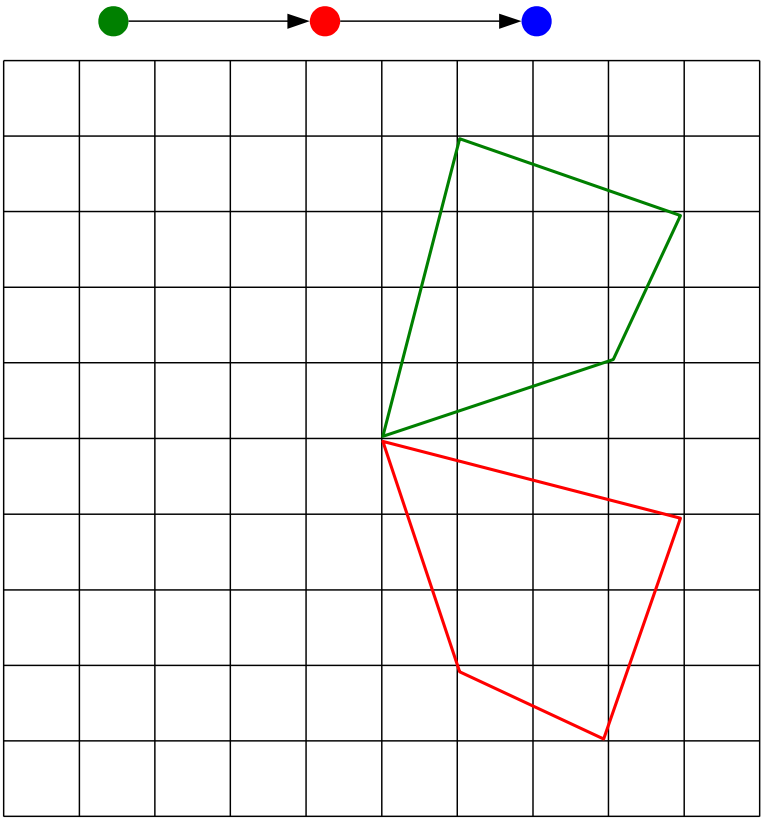
$17 \times 6 \times 4 : 17 =$

$29 \times 12 \times 4 : 29 =$

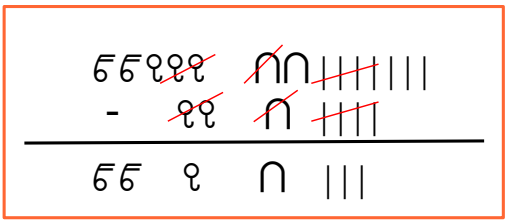
7 Using a straight edge and a compass construct $\triangle A'B'C'$ with sides twice longer than those of the $\triangle ABC$.



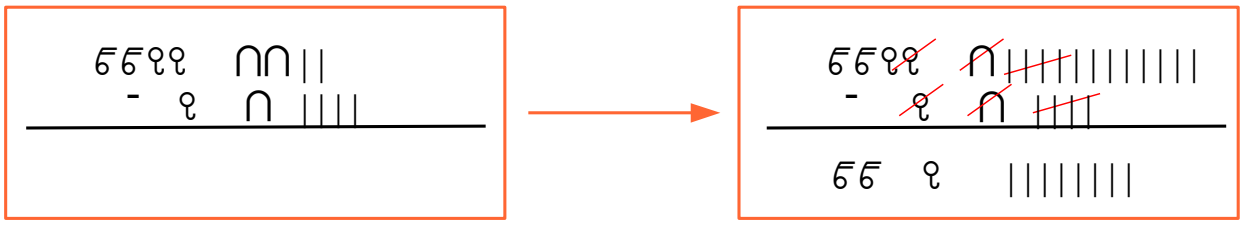
8 Explain which transformation produced the red shape from the green shape. Try to make a corresponding blue shape using the same transformation of the red shape.



Subtraction in ancient Egyptian symbols is very similar to our subtraction today. For example, you can erase the symbols that get subtracted.

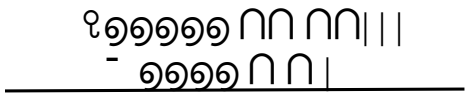


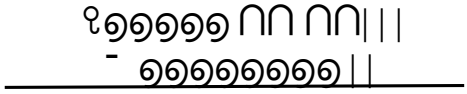
Sometimes though you might need to regroup. In example below there are not enough units |.



Number	Symbol	Description
1	|	Vertical stroke
10	∩	Heel bone
100	𓍢	Scroll
1000	𓆼	Lotus flower
10,000	𓂭	Pointing finger
100,000	𓆑	Fish
1,000,000	𓁨	Kneeling person

9 Try to subtract using Egyptian symbols. Regroup when needed.





10 Calculate:

5 + 4 = 5 + (–4) = 5 – 4 = 5 – (–4) =

–5 + 4 = –5 + (–4) = –5 – 4 = –5 – (–4) =

11 Remove parenthesis:

$(2x + 3 - 4w) \times 2 =$ _____