Lesson № 16

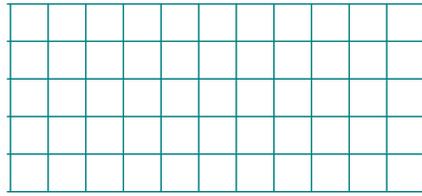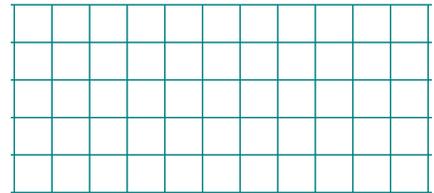**1** **Write the expressions for the word problems:**

A. There were *x* plates of cupcakes at a party. Each plate had 8 cupcakes. If *y* cupcakes were eaten, how many are left over?

_____

B. There are *b* children going to the zoo. If each bus has *c* seats that hold *d* amount of students. How many buses will fit all of the children?

_____

C. I have *a* dollars. If I buy 9 books that cost *d* dollars each and 4 pencils that cost *b* dollars each, how much money will I have left?
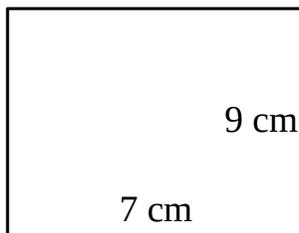
_____
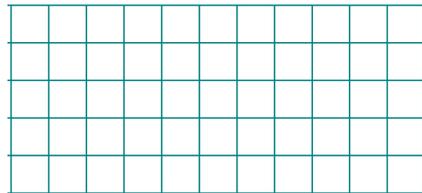
D. Anna walked *x* miles and swam for *y* miles. Her sister walked twice as far and swam four times less. How many miles did Anna's sister walk and swim altogether?
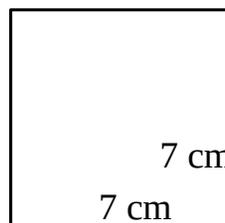
_____
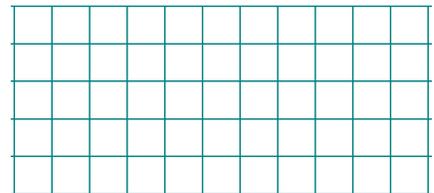
Perimeter:

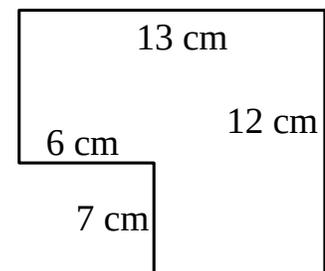> **Perimeter** of a polygon is the sum of the lengths of *all* its sides.

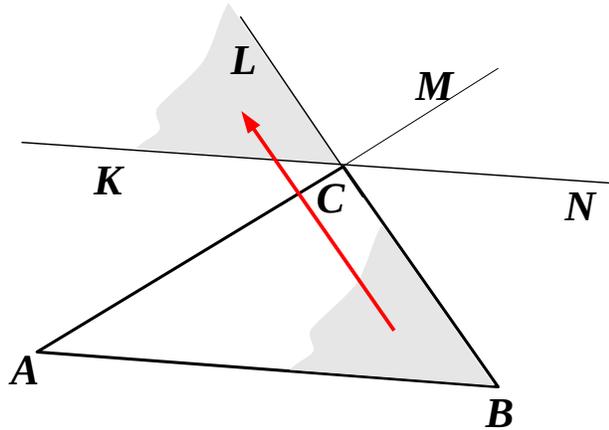**2** Calculate the perimeters of these polygons:

9 cm

7 cm

P =

7 cm

7 cm

P =

13 cm

12 cm

6 cm

7 cm

P =

Angle sum of a Triangle.

3 Compare:

∠ A □ ∠ MCN

∠ B □ ∠ LCK

∠ C □ ∠ LCM

∠ MCN + ∠ LCK + ∠ LCM = 180º

So, the angle sum of a triangle is 180°. | ∠ A + ∠ B + ∠ C = 180º |

Can a triangle have two obtuse angles?   _____

Can a triangle have two right angles?   _____

In triangle ABC, ∠ A = 40º and ∠ B = 60º.
What is the measure of ∠ C?

_____

180°

∠ A   ∠ B   ∠ C
60°   40°   ? =
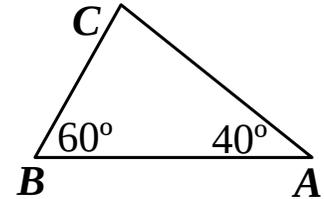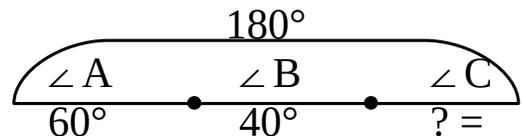
4 In △ABC, A = 45 , B = 90 , find C. _____

In △ABC, A = 70 , B = 30 , find C. _____

In △ABC, A = 100 , B = 50 , find C.   _____

Classification of triangles			
		By angles' measure		
		Acute	*Right*	*Obtuse*
By sides' measure	*Scalene*			
	Isosceles			
	Equilateral		Does not exist	Does not exist

Right Angles:

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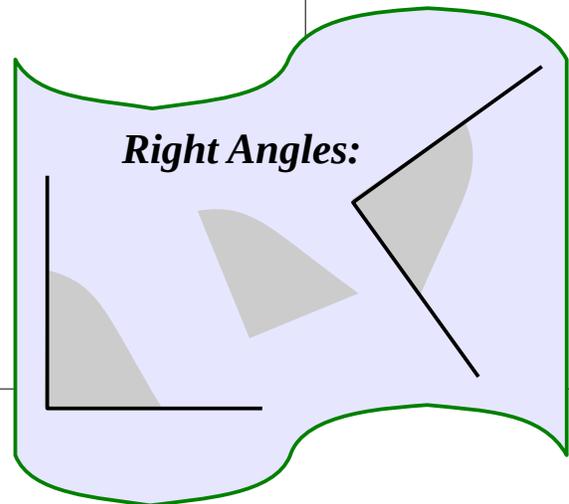
5 The triangle on the drawing is …

_____ (by sides' measure) and

_____ (by angle).

6 **Solving simple equations of the type:** **Expression = Number**

② ①

$$36 - x \cdot 4 = 12$$

$$x \cdot 4 =$$

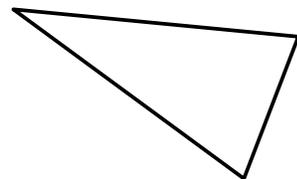$$x \cdot 4 =$$

$$x =$$

$$x =$$

✔️

36

x·4

12

36 – x

12 | **4**

① ②
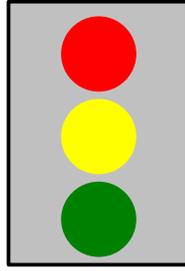
$$(36 - x) \cdot 4 = 12$$

$$36 - x =$$

$$36 - x =$$

$$x =$$

$$x =$$

✔️

1. Identify the *last* operation in the expression
2. Make an appropriate auxiliary **drawing**
3. Use the drawing to **simplify** the original equation
4. Solve the simplified equation
5. **Check** your answer !

7 Foxy Tail lives in town **A** and he wants to visit his friend who lives in town **F**. The map below shows bus connections between nearby towns.

Which town must FT pass on his way from town **A** to town **F**?

If road **DC** is under construction, will FT be still able to visit his friend?
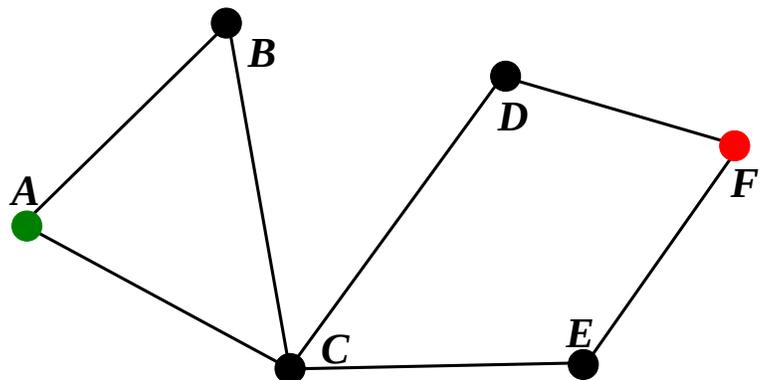
Dividing a Unit into Equal Parts

8

$\frac{1}{5} = 1 : \square$

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

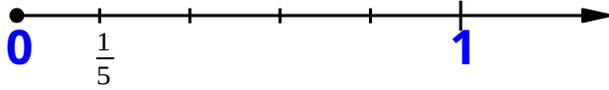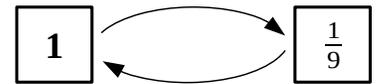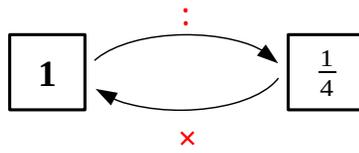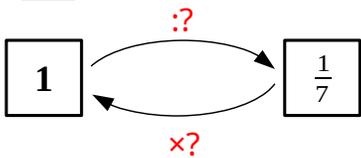**9** Write the operations that produce the following fractions below:

:?

| 1 | | $\frac{1}{7}$ |

×?

:

| 1 | | $\frac{1}{4}$ |

×

| 1 | | $\frac{1}{9}$ |

$\frac{1}{2} = 1 : \square$ $\frac{1}{3} = 1 : \square$ $\frac{1}{4} = 1 : \square$ $\frac{1}{5} = 1 : \square$

$\frac{1}{2} \times \square = 1$ $\frac{1}{3} \times \square = 1$ $\frac{1}{4} \times \square = 1$ $\frac{1}{5} \times \square = 1$
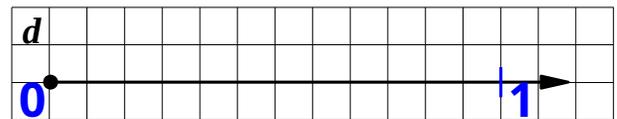
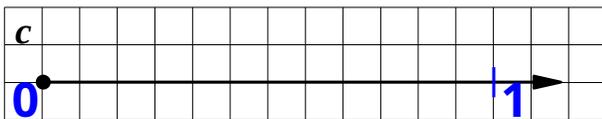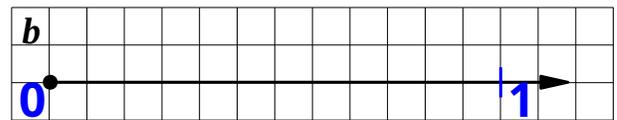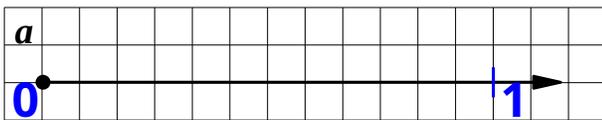**10** Mark the following fractions on the number rays:

a). $\frac{1}{3}$ b). $\frac{1}{2}$ c). $\frac{1}{6}$ d). $\frac{1}{12}$

a

0 ———————————————— **1**

b

0 ———————————————— **1**

c

0 ———————————————— **1**

d

0 ———————————————— **1**

11 List these fractions in the …

A). … increasing order: _____

B). … decreasing order: _____

12 Use the number rays to add the following fractions:

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

$\dfrac{1}{4}$ + $\dfrac{1}{4}$ =

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

$\dfrac{1}{4}$ + $\dfrac{1}{4}$ + $\dfrac{1}{4}$ =

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

$\dfrac{1}{4}$ + $\dfrac{1}{4}$ + $\dfrac{1}{4}$ + $\dfrac{1}{4}$ =

13 Calculate:

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

$\dfrac{1}{9}$ + $\dfrac{1}{9}$ + $\dfrac{1}{9}$ + $\dfrac{1}{9}$ + $\dfrac{1}{9}$ =

$\dfrac{1}{11}$ + $\dfrac{1}{11}$ + $\dfrac{1}{11}$ + $\dfrac{1}{11}$ =

$\dfrac{1}{13}$ + $\dfrac{1}{13}$ + $\dfrac{1}{13}$ =

$\dfrac{1}{n}$ + $\dfrac{1}{n}$ =

$\dfrac{1}{k}$ + $\dfrac{1}{k}$ + $\dfrac{1}{k}$ + $\dfrac{1}{k}$ =

14 Use appropriate drawings to solve the equations:

② ①
$25 - x \cdot 3 = 10$

$x \cdot 3 =$

$x \cdot 3 =$

$x =$

$x =$

② ①
$25 - 15 : x = 20$

$15 : x =$

$15 : x =$

$x =$

$x =$