Math 2 Homework 22

Learn multiplication table by 6 and 7 by heart!

1

$7 \times 0 =$	$2 \times 7 =$	$1 \times 7 =$
$10 \times 70 =$	$20 \times 7 =$	$7 \times 40 =$
$7 \times 30 =$	$7 \times 20 =$	$30 \times 6 =$
$60 \times 1 =$	$60 \times 10 =$	$20 \times 6 =$
$20 \times 7 =$	$60 \times 5 =$	$2 \times 60 =$
$10 \times 700 =$	$7 \times 50 =$	$30 \times 7 =$
$70 \times 3 =$	$60 \times 2 =$	$60 \times 7s0 =$

Report the time you spent: _____ minutes

2

What number is covered by the flower?

○ + △ = 3
△ + △ = 4
△ + □ = 5
○ + □ = ❀

(A) 1 (B) 2 (C) 3 (D) 4 (E) 5

3

Fill the blanks with numbers:

$12 + (6 \times \ldots.) = 24$ $29 + (6 \times \ldots) = 53$

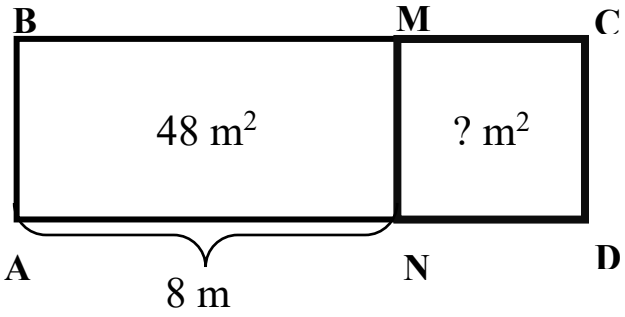
$19 + (6 \times \ldots) = 54$ $45 + (6 \times \ldots) = 93$

4

Calculate:

$31 \times 5 =$ $67 \times 6 =$ $222 \times 4 =$

5 Find the area and the perimeter of square NMCD. Show your calculations step by step.



A = _____

P = _____

6 Mark the Axis X and Axis Y. Remember X is horizontal, Y is vertical.

Mark points:

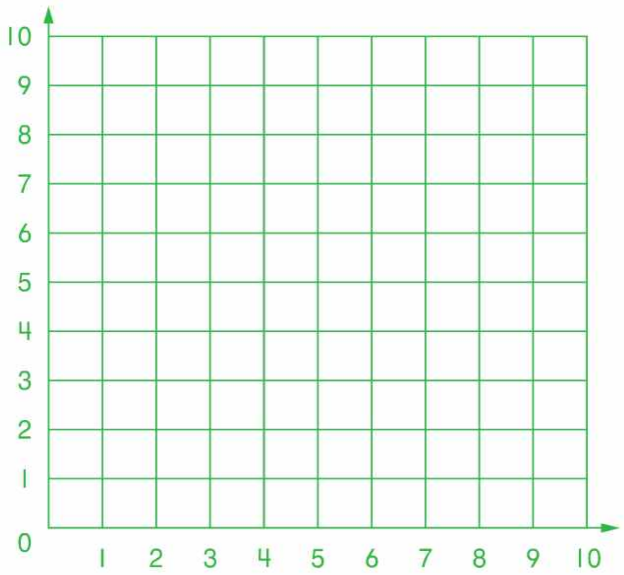
M (1, 1),

K (8, 0),

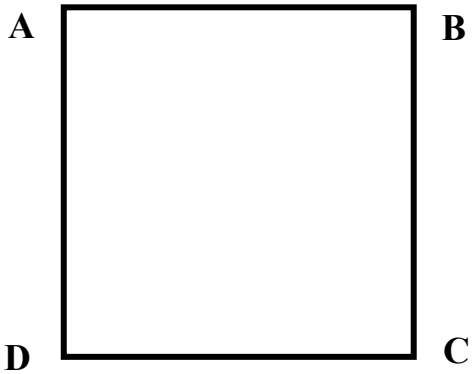
N (6, 6),

L (9,5) and

P (3, 5)



7 Inside the square ABCD draw two line segments in order to get 3 triangles and 1 pentagon. Label both segments with letters and write down the name of each shape.



8 Inside square ABCD draw two line segments in order to get 3 triangles and 3quadrilaterals. Label both segments with letters and write down the name of each shape.

9. Peter came home from the school at 2.10 pm. When did he leave the school if it takes 15 minutes for him to get from home from the school?

_____

10 Compare without calculation (<, >, =):

(14 + 21) + (21 + 14) ☐ (14 + 21) × 3

37 + 24 + 24 + 37 ☐ (37 + 24) × 2

(34 + 19) + (37 + 37) ☐ 0

11 Write down the expression for each problem. Then, calculate the values of each expression if it's possible.

a) There were five mannequins in a store, and then seven more mannequins were added. How many mannequins are in the store? _____

b) There are ***m*** mannequins in a store, and then 3 more mannequins were added. How many mannequins are in the store? _____

c) There are ***s*** mannequins in the first store and ***p*** mannequins in the second store. How many mannequins are in both stores? _____

d) There are ***m*** mannequins in a store, and then ***p*** more mannequins were added. How many mannequins are in the store? _____

e) There are 18 mannequins in the first store and 24 mannequins in the second store. How many more mannequins are in the first store than in the second one?

_____

f) There are ***g*** mannequins in the first store and ***r*** mannequins in the second store. How many more mannequins are in the first store than in the second one?

_____

12 Make a list of the first ten multiples of 3 _____

a) Which of the numbers on your list are multiples of 6? - circle them!

b) What pattern do you see where the multiples of 6 appear in the list? – write your answer:

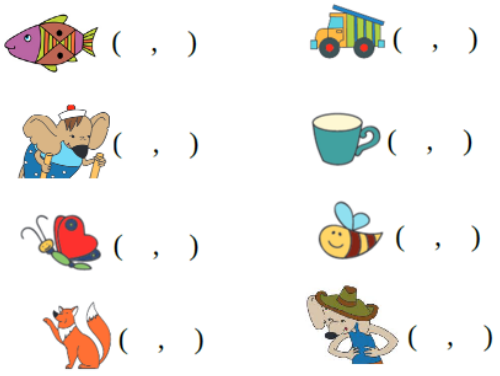
_____

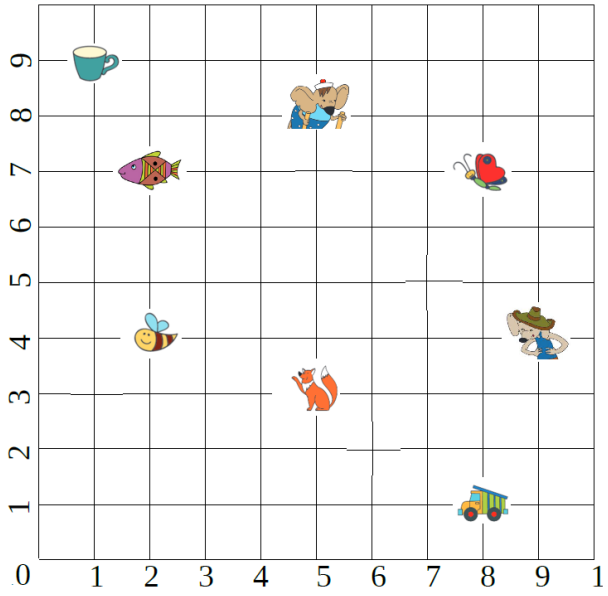
c) Which numbers on the list are multiples of 7? Can you predict when multiples of 7 will appear in the list of multiples of 3? Explain your reasoning.

_____

_____

13 Find coordinates of the objects.





14 Insert the parenthesis to the following equalities to make them correct.

a) $6 + 2 \times 5 = 40$
b) $3 \times 4 + 2 = 18$
c) $3 + 4 \times 2 + 4 = 42$
d) $4 + 3 + 2 \times 2 = 18$

15 Open parentheses and try to simplify (find like terms and see if some of them can be canceled).
HINT: if you do everything correctly, the answer will be just one letter!

$(a + b + c) – (c – d – e – f – g) – (a + b) – (e + d + f + g) + a =$

$=$ _____

Math 2 Homework 24, part I

1

TIME FIRST PAGE

$7 \times 6 =$	$2 \times 6 =$	$1 \times 5 =$
$3 \times 7 =$	$4 \times 6 =$	$7 \times 5 =$
$7 \times 5 =$	$7 \times 6 =$	$3 \times 5 =$
$4 \times 7 =$	$5 \times 6 =$	$5 \times 5 =$
$9 \times 7 =$	$6 \times 3 =$	$2 \times 5 =$
$7 \times 2 =$	$6 \times 5 =$	$4 \times 5 =$
$7 \times 1 =$	$0 \times 6 =$	$6 \times 5 =$

2

Solve the following equations:

$x + 40 = 50$	$95 - y = 35$	$z - 39 = 41$	$y \times 5 = 40$
$x =$ _____	$y =$ _____	$z =$ _____	$y =$ _____
$x =$ _____	$y =$ _____	$z =$ _____	$y =$ _____
Check: _____	Check: _____	Check: _____	Check: _____

3

Calculate:

	5	9				3	2				9	8				1	2	4				2	1	9				4	1	3
+		7			-		5			+	2	3			-		2	6			+		9	4			-	1	2	5

Report the time you spent: _____ minutes

4

Replace the stars by digits to obtain a correct equality:

a) *** – ** = 1 b) *** – ** = 2

How many solutions can you find for each problem?

5

How much time has elapsed between the first and the second times?

First time:	Second time:	Elapsed time:
11 am	1 pm	_____
5:20 pm	6:30 pm	_____
4:40 pm	8:10 pm	_____
3:22 pm	6:15 pm	_____

6

On a business trip in Upstate New York, Mr. Floyd stopped several times to buy gas. He started with a full tank. He filled 12 gallons when he filled up the first time. At his next gas stop, he filled 10 gallons. He stopped at the gas station next to his home and he added 8 gallons to make the tank full again. How many gallons of gas did his car use on the trip?

_____

7

Calculate:

5. $3.28 + $5.27

6. $6.98 - $2.49

7. $7.03 - $6.08

8. $11.00 - $5.39

8

Expand the following by removing parentheses:

6(z + 3) = _____

4(6 – y) = _____

5(a + 8) = _____

9(3 – q) = _____

4(3z + 6) = _____

5(2 – 2y) = _____

7(3a + 3) = _____

7(6 – 6q) = _____

9

a) DO YOU REMEMBER THE PROPERTIES OF ADDITION?
Write what each expression is equal to:

Commutative property: $a \times b =$ _____

Associative Property: $(a + b) + c =$ _____

b) DO YOU REMEMBER THE PROPERTIES OF MULTIPLICATION?

Commutative property: $a \times b =$ _____

Associative Property: $(a \times b) \times c =$ _____

Distributive property: $a \times (b + c) =$ _____

$a \times (b - c) =$ _____

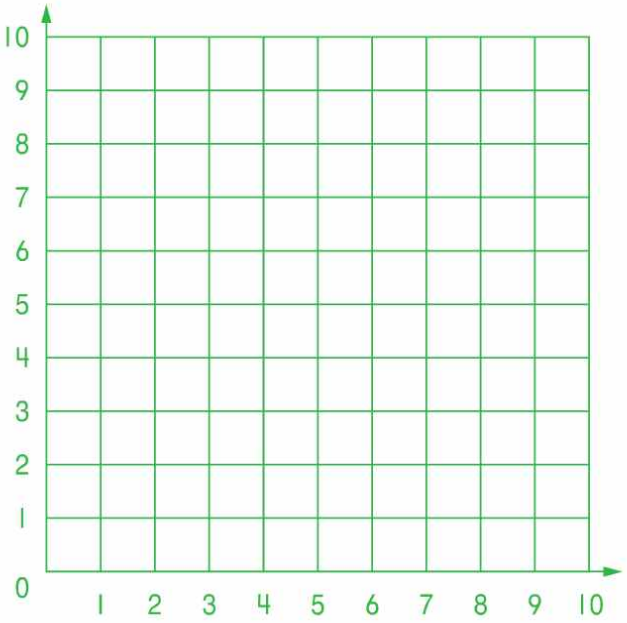
10

Ben is jumping from one red dot to the next one (mark his stops with RED). Dina is jumping from one blue point to the next one. Mark her stops with BLUE.

DINA's path: A (1,5) → B (7,5) → C (4,8) → D (10,10)

BEN's path: K (1,10) →L (3,7) → M (6,7) → N (10, 2)

Who have made the longest jump? _____. From what point to what point? _____



HW 24 Part I

11 Calculate:

$49 \times 7 =$ $67 \times 4 =$ $83 \times 8 =$

12 Ariana likes to bake. She has 3 aluminum muffin pans, each of which holds 8 muffins, and 2 cast iron pans, which also hold 8 muffins each. She also has two stainless steel muffin pans, which hold 12 muffins each. If Ariana fills all her muffins' pans at once, how many muffins would she bake?

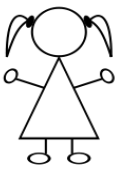
---

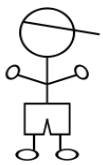
13 A hotel has 5 types of rooms depending on the number of beds. The rooms shown on the map are labeled accordingly. Figure out in which rooms Lisa and Tim live? _____

You know that:

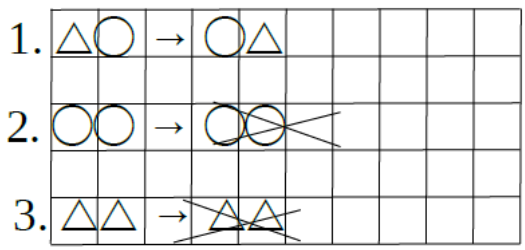
- Neither of their rooms is located next the number 3: not to the left, not to the right, not above, not below.
- Both of their rooms are located either to the right or to the left of both the numbers 4 and 1.
- Both of their rooms are located nearby (to the right, or left, or above, or below) of both the numbers 1 and 5.
- Lisa's room is to the left of Tim's room.

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

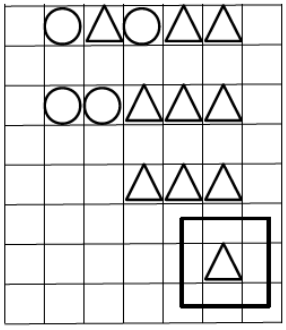
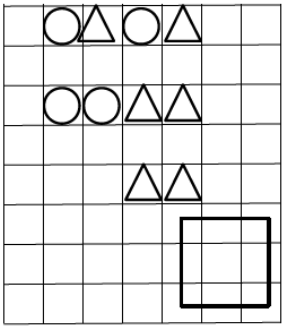
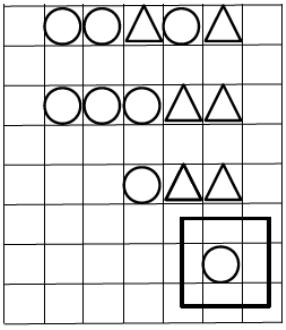




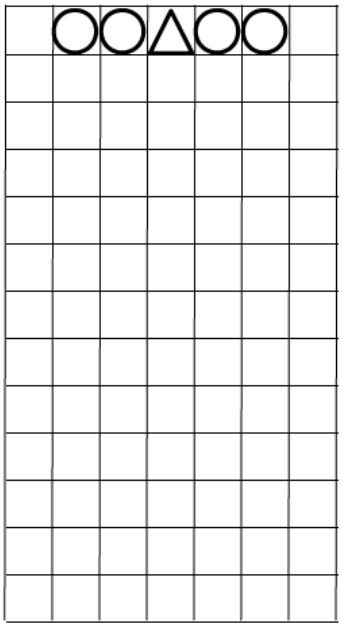
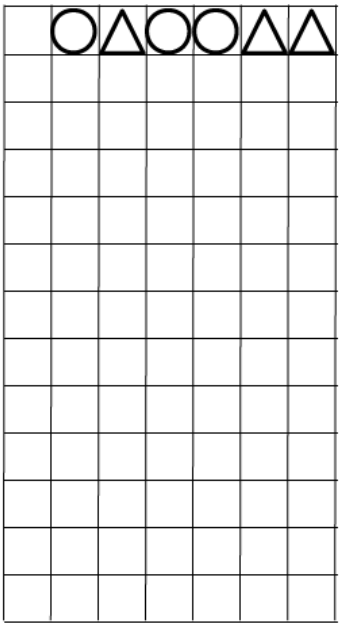
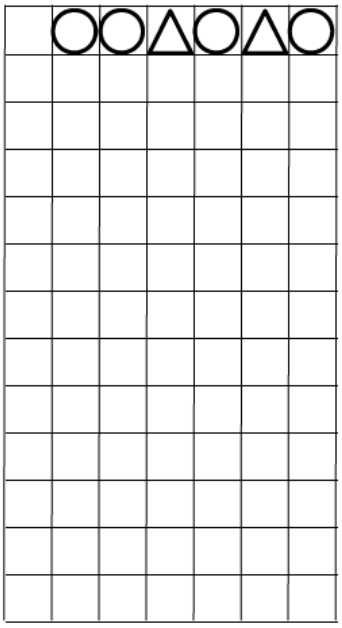
14 Once upon a time the people of a kingdom only wrote using squares and triangles. They were communicating to each other using long words that consisted of squares and triangles. The king became angry and decreed the 3 rules to simplify the writing:



First, rule 1 must 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:

Math 2 Homework 24, part II

1 Using a ruler draw lines going through points:

a) A and B b) C and D c) E and F

A • B •

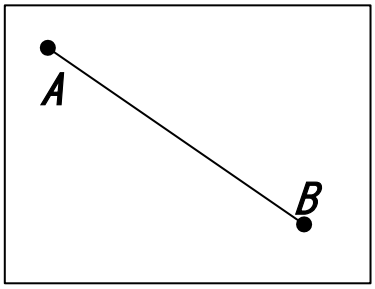
E •

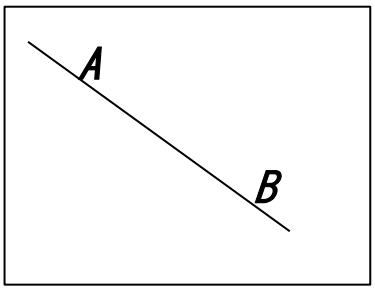
D •

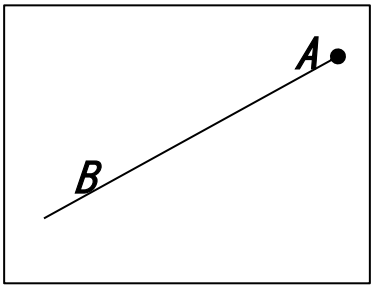
C • F •

2 Connect the names with the appropriate drawings.

Straight line $\overleftrightarrow{AB}$	Segment $\overline{AB}$	Ray $\overrightarrow{AB}$







3 Using your ruler draw:

a) Two line segments, which intersect at point *K*

b) Two line segments, which do NOT intersect and are not parallel.

c) Two rays, which do not intersect

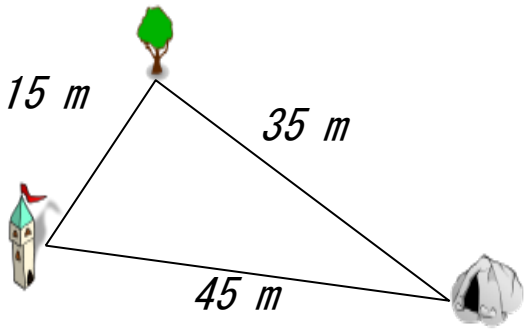
4 The distances between a tower, a tree, and a cave are shown in the drawing. What will you find out if you perform the following actions?

15 + 15 distance from tower to tree and back

15 + 45 _____

45 + 35 _____

15 + 35 + 45 _____



5 Draw two closed curves, one inside the other. Draw an open curve that intersects each of the closed curves at two points. Label the intersection points with any letters you choose.

6 Look at the definitions below and connect each definition with a correct term.

- is a straight.
- goes in both directions.
- does not end ... so you can't measure its length

Ray

- is straight.
- is part of a line.
- has one endpoint.
- goes in ONE direction.

Line Segment

- is straight.
- is a part of a line.
- has 2 endpoints that show the points that end the line.

Line

7 Calculate.

4 m 2 dm 6 cm + 1 m 5 dm 2 cm = __ m ___ dm ___ cm

9 m 8 dm 3 cm – 6 m 2 dm 1 cm = ___ m ___dm ____ cm

8

a) Draw a line segment $\overline{AB}$.
Draw another line segment $\overline{CD}$ in a way that the intersection between $\overline{AB}$ and $\overline{CD}$ is a point K.

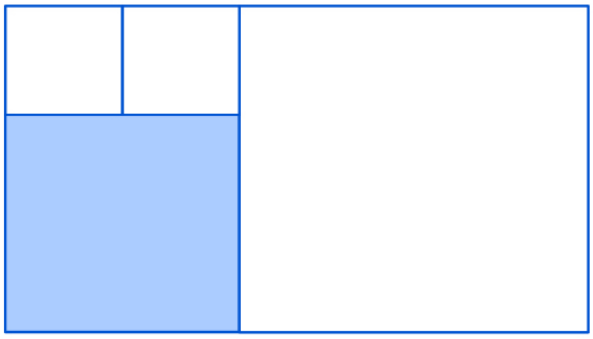
b) Draw a line segment $\overline{AB}$ again below. Draw another line segment $\overline{EF}$ in a way that the intersection between $\overline{AB}$ and $\overline{EF}$ is a line segment $\overline{EB}$.

9

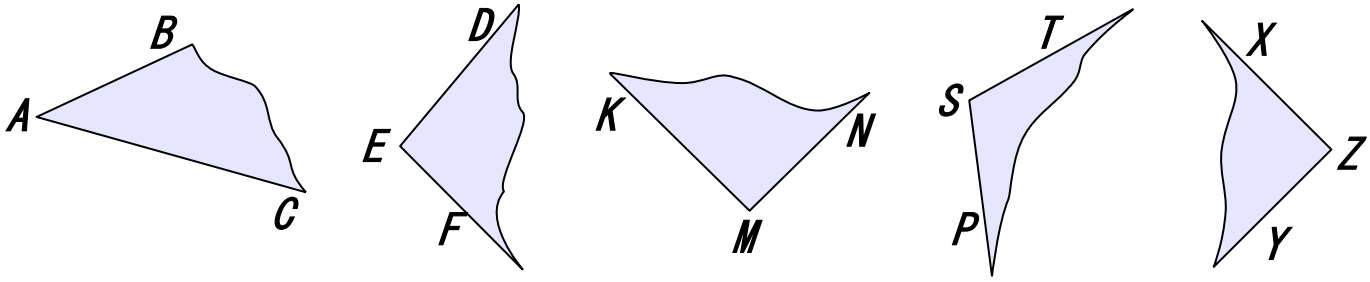
Rectangle is divided into 4 squares. Find a perimeter and an area of the rectangle if one side of the shaded square is 8 cm.

P = _____

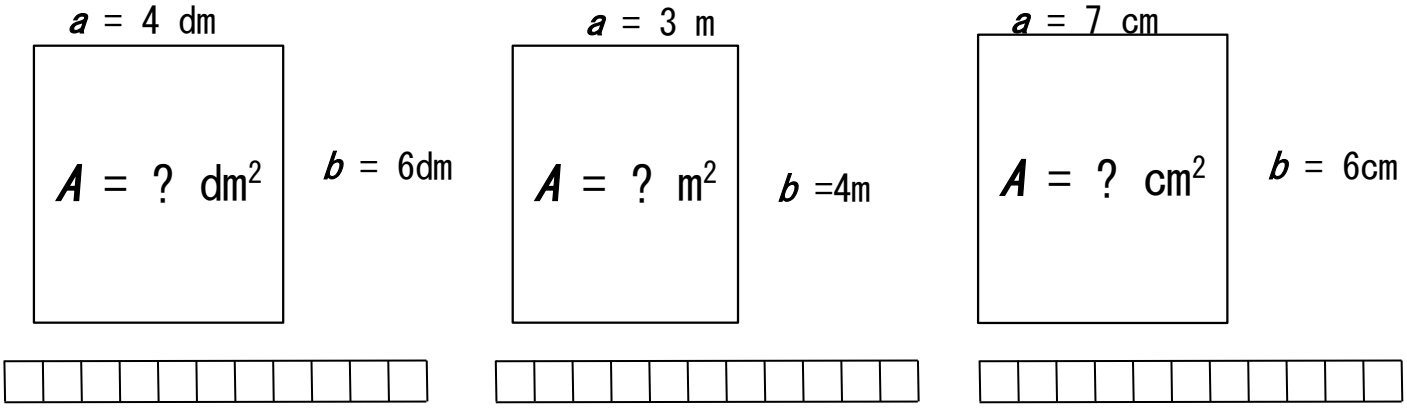
A = _____



10 What kind of angles do you see on the drawing below? Write down the names under each angle.

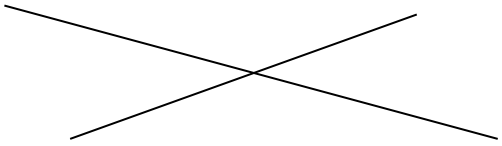


11 Find the Area of the rectangles. Write your answer below, don't forget the units of measure!



12 The square with a side equal to 1m cut down on the smaller squares with a side of 1 cm. Then all small squares are put along the straight line one by one. The line will have a width equals to 1cm. How long is the line going to be?

13 Ann plotted two intersecting straight lines. On one of the lines, she labeled 3 points. On the other line she labeled 5 points. Totally she has labeled 7 points.
How is that possible? Show on the picture.



Math 2 Homework 26

TIME FIRST PAGE

1 Fill in missing numbers:

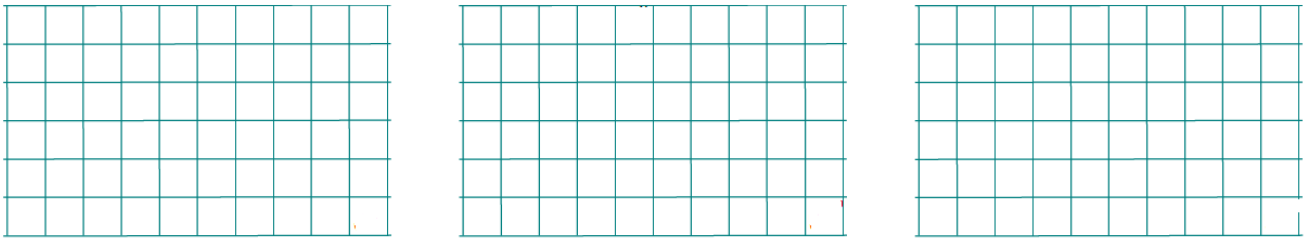
__ × 8 = 64 __ × 7 = 49 __ × 6 = 54 __ × 8 = 16 __ × 2 = 20

__ × 7 = 63 __ × 5 = 45 __ × 8 = 40 __ × 4 = 36 __ × 8 = 24

4 × __ = 16 6 × __ = 36 10 × __ = 60 9 × __ =18 3 × __ = 27

2 Use rectangles to solve the equations:

Y ÷ 9 = 8 45÷ X = 5 Z × 6 = 48



3 Solve each expression using the correct order of operations

72 ÷ 9 – 4 × 3 ÷ 6 +20 ÷ (5 – 2) × 3 = _____

90 – 36 ÷ 9 × 9 – (8 + 5 × 2) = _____

3 × 8 ÷ 8 + 27 ÷ 3 × (2 + 1) = _____

Report the time you spent: _____ minutes

HW 26

4 Solve the equations:

$4 \times x = 32$ $y \times 8 = 56$ $9 \times z = 72$

$48 \div x = 8$ $63 \div y = 7$ $z \div 9 = 45$

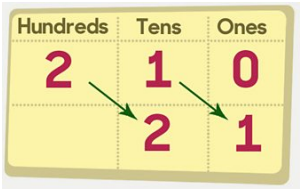
Division by 10, 100, 1,000, etc.

When you divide a number by 10, the value of each of its digits decreases ten times. Hence, the value of the whole number decreases ten times.

Example: 460 ÷ 10 = 46 tens ÷ 10 = 46

When you divide a number by 100, the value of each of its digits decreases hundred times. Hence, the value of the whole number decreases hundred times.

Example: 4600 ÷ 100 = 46 hundreds ÷ 100 = 46



210 ÷ 10 = 21

5 Calculate:

40 ÷ 10 =	560 ÷ 10 =	3300 ÷ 10 =	7800 ÷ 10 =
5800 ÷ 100 =	2100 ÷ 100 =	3300 ÷ 100 =	7800 ÷ 100 =

6 Write an expression for each word problem:

n apples were divided among ***x*** kids. How many apples did each kid receive? _____

x cookies were distributed evenly into ***m*** boxes. How many cookies are in each box? _____

HW 26

7 Solve the equations and check the answers.

$(350 - x) + 250 = 315$ $x - (400 - 67) - 100 = 170$ $x + (456 - 123) = 895$

8 In the numbers below, some of the digits accidentally got erased. These digits are indicated with the wild-card symbol *. Where possible, compare the numbers using >, <, or =. Cross out the pairs which are impossible to compare.

9 ☐ *1	**3 ☐ 8	**8 ☐ **6
2* ☐ *7	59 ☐ 1**	295 ☐ 2*4
4* ☐ 46	3** ☐ 5**	75* ☐ 74*

9 Construct a rectangle 2 cm by 6 cm and find its perimeter. Then, construct a square with the same perimeter.

10 Solve the problems.

a) There are six minivan taxis at the airport, and each can hold seven passengers. How many passengers can the taxis take in total? _____

b) The airplane had 56 passengers. Each minivan taxi can hold seven passengers. How many minivan taxes are needed to take these passengers to a hotel? _____

HW 26

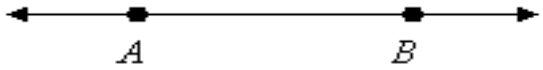
Geometry review

11

Review of Lines, Rays and Segments

In geometry, ***a line*** is straight and goes on forever. To indicate that a line goes on forever, we usually draw lines with arrows on both ends, like this:

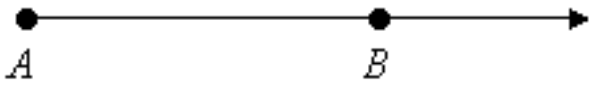
Lines are sometimes labeled by indicating two points on them and placing a double arrow over the names of the points (which are capital letters). For example, the line that goes through points A and B might be labeled as: $\overleftrightarrow{AB}$



If we choose a point on a given line, this divides the line into two pieces or "halves." Each half is called **a *ray***. More precisely, a *ray* consists of a point on a line, called its *vertex*, and all points on one side (or half) of that line. A ray goes on forever, but only in one direction. We draw rays with an arrow on one side only, like this:

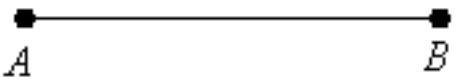
Rays are labeled by specifying the vertex and some other point on it and placing an arrow over these letters.

Ray $\overrightarrow{AB}$ would look like this:



If we choose two distinct points on a line, the line is split into three pieces. The piece that consists of those two points and all the points between them is called **a *segment.*** Segments do not go on forever, so we do not put arrows on their ends. The endpoints of segments are called its *vertices*, and we label segments by specifying the endpoints and placing a line without arrows over these letters.

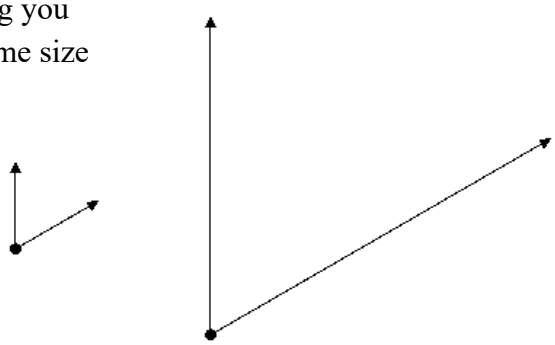
Segment $\overline{AB}$ would look like this:



12

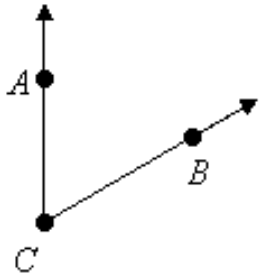
Review of Angles

Recall that ***an angle*** is made of two rays with a common vertex. The rays are the *sides* of the angle, and they go on forever. This means it doesn't matter how long you draw those rays, so the following two angles are really the same size even though they look different:



HW 26

Angles are sometimes labeled using letters of three points on them, the vertex and one on each side of the angle. The vertex-letter is always the middle letter. There are two names we could give the following angle. It could be labeled $\angle ACB$ or $\angle BCA$:

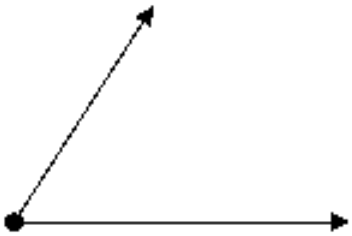


Properties of Angles

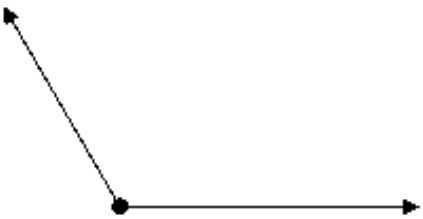
Definition: When the rays are the two halves of a line (they point in opposite directions), the angle is called **a *straight angle*:**

Definition: When the sides of an angle are perpendicular, the angle is called **a *right angle***. For now, we are using right angle template to draw right angle.

Right angle



Acute angle



Obtuse angle

Math 2 Homework 28

1 *Solve equations:*

$x + 209 = 507$ $905 - x = 459$ $x - 307 = 428$

$x =$ _____ $x =$ _____ $x =$ _____

$x =$ _____ $x =$ _____ $x =$ _____

Check: _____ _____ _____

2 Write an expression for each problem.

There are ***m*** fish in an aquarium, and then ***k*** more fish were added. How many fish are in the aquarium? _____

There are ***d*** fish in the aquarium, and we remove ***p*** fish from the aquarium. How many fish are in the aquarium? _____

There are ***f*** fish in the first aquarium and ***j*** fish in the second aquarium. How many more fish are in the first aquarium than in the second one? _____

There are ***n*** fish in the first aquarium and ***t*** fish in the second aquarium. We remove ***b*** fish from the first aquarium. How many fish are in both aquariums? _____

3 Mark the order of operations and find the result:

$23 + (9 - 7) =$ _____ $60 - (4 + 7) + 4 - (10 - 8) =$ _____

$13 - 3 + 9 =$ _____ $27 - (4 + 3) - 1 - (10 + 5) =$ _____

$20 - (3 + 2 - 1) =$ _____ $50 - (14 + 6) - 1 - (10 - 5) =$ _____

4 Open the parentheses, simplify if possible:

$59 + (k + b) =$ _____ $100 + (p - 15) =$ _____

$a + 3(k + b) =$ _____ $52 - 2(p + 15) =$ _____

$56 + 5(k - b) =$ _____ $52 - 2(p - 15) =$ _____

HW 28

5 Convert the following measurements.

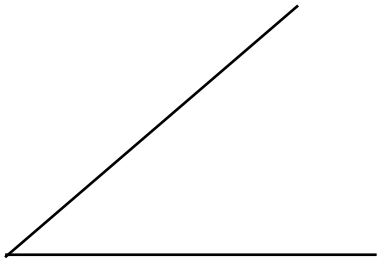
1 m 2 dm 7 cm = _____ cm 270 cm = ____dm 3 m 7 cm = _____ cm

507 cm = ____ m ____ cm 40 m = _____ cm 29 cm = ___ dm ___ cm

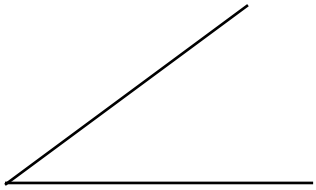
911 cm = ____ dm ____ cm 30 dm = _____ m 5 m 4 dm = _____ cm

6 Draw a second angle for each case so that the intersection of the two angles would be:

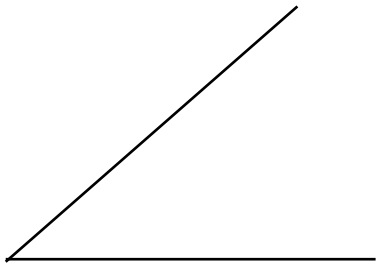
a) ... a point;



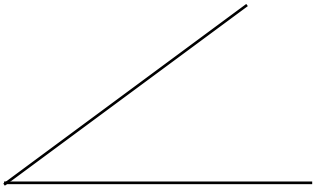
b). ... a ray;



c). ...a triangle.



d). ...a line segments



7 Compare:

$28 - 5 \square 28 - (5 + 1)$ $28 + 5 \square 28 + (5 + 1)$

$28 - 5 \square 28 - (5 - 2)$ $28 + 5 \square 28 + (5 - 1)$

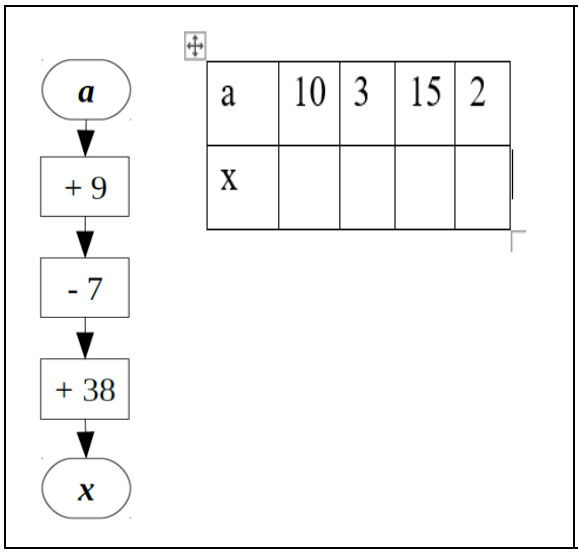
$28 - 5 \square 28 - (5 + a)$ $28 + 5 \square 28 + (5 + a)$

$28 - 5 \square 28 - (5 - b)$ $28 + 5 \square 28 + (5 - b)$

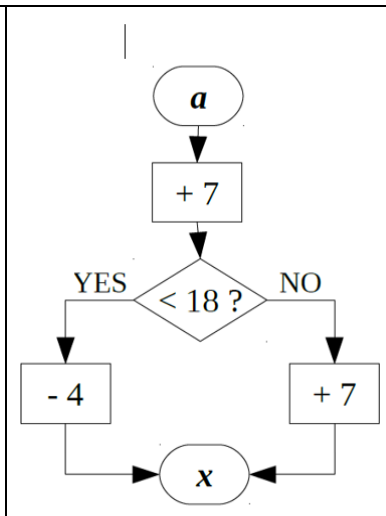
8

HW 28

Perform the actions according to the algorithms in the drawing below. Which of these algorithms is linear and which is branching?

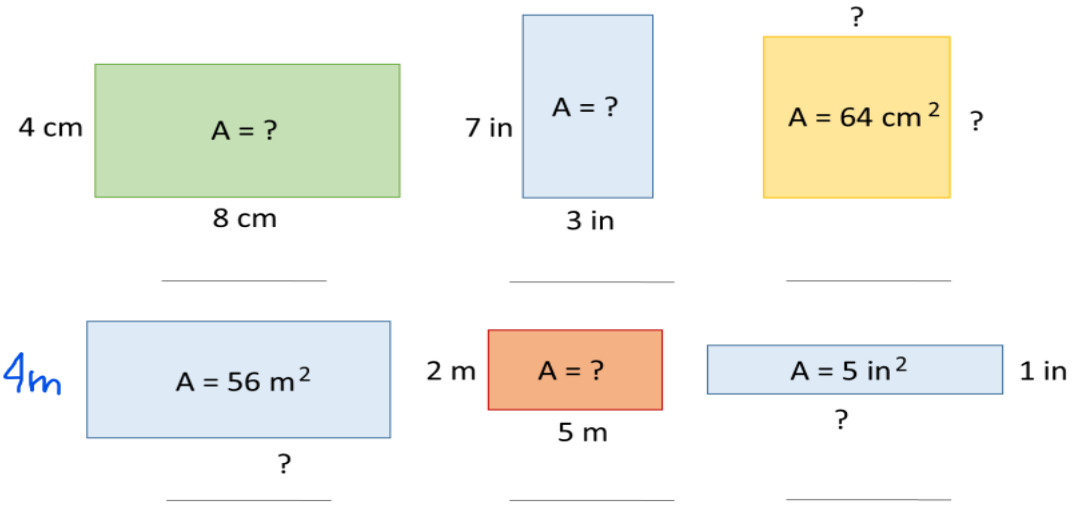


a	10	3	15	2
x				



a	10	3	15	2
x				

9 Find: 1) area or side of each rectangle 2) perimeter of each rectangle.



10 Compare:

$6 \times 2 \square 6 : 2$ $\quad c \times 2 + c \square c \times 3$ $\quad 5 \times 2 \square 5 + 2$

$7 \times 3 \square 6 + 6 + 6$ $\quad y \times 4 + y \times 2 \square y \times 5$ $\quad q \times 2 \square q : 2$

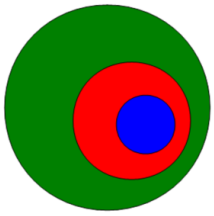
$6 : 3 \square 6 : 2$ $\quad 24 : 6 \square 24 : 4$ $\quad t : 2 \square t : 3$

HW 28

11 For each multiplication fact, write also a division fact.

a. 7 × 2 = _____ _____ ÷ 2 = _____	b. 12 × 2 = _____ _____ ÷ 2 = _____	c. 8 × 5 = _____ _____ ÷ 5 = _____
d. 6 × 7 = _____ _____ ÷ ____ = _____	e. 7 × 7 = _____ _____ ÷ ____ = _____	f. 11 × 3 = _____ _____ ÷ ____ = _____
g. 9 × 8 = _____ _____ ÷ ____ = _____	h. 1 × 5 = _____ _____ ÷ ____ = _____	i. 7 × 9 = _____ _____ ÷ ____ = _____

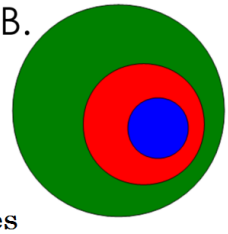
12 Color the circles that represent different groups

A. 

○ – Buses

○ – Cars

○ – School Buses

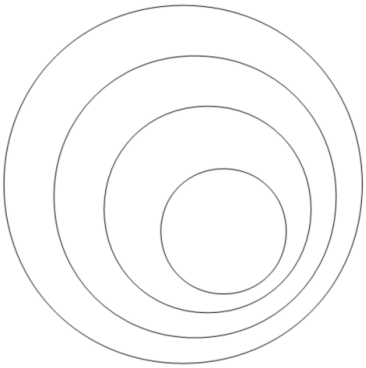
B. 

○ – Children

○ – People

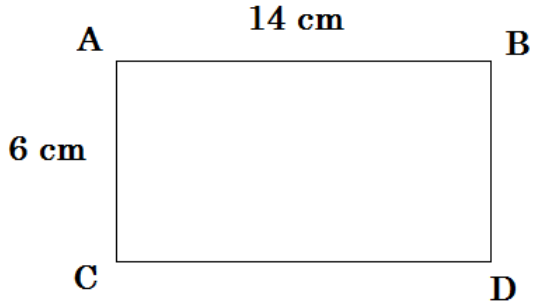
○ – Girls

13 Color the circles using the table:



Sets of	
●	- Predators
●	- Tigers
●	- Bengal tigers
●	- Animals

14 Find perimeter (the total length of the sides) of the rectangle ABCD three ways:



1) _____

2) _____

3) _____

HW 28

15

Write down an equation and solve it:

a) The first addend is unknown, the second in 13. The sum is 75. Check!

_____

_____

_____

_____ ✓

b) Subtract 47 from x and get 52. Check your answer.

_____

_____

_____

_____ ✓

16

Write an equation for the problem and solve.

a) 24 apples were equally divided between ***x*** people. Each person got 6 apples.

_____

_____

_____

_____ ✓

b) Kate had total 56 toys. She prepared ***y*** goody bags with 8 toys in each bag.
How many goody bags were in each bag?

_____

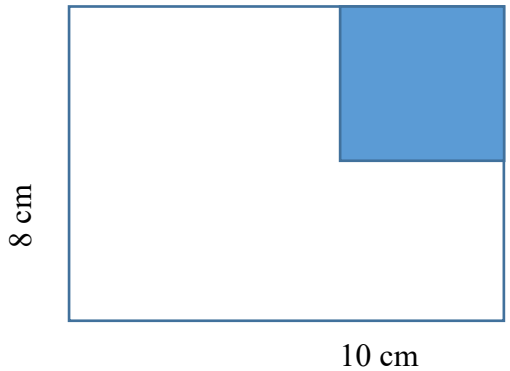
_____

_____

_____ ✓

17.

Find the area of a white shape two different ways, if you know that the blue shape is a square with a side of 5 cm.



1)_____

_____

2)_____

_____