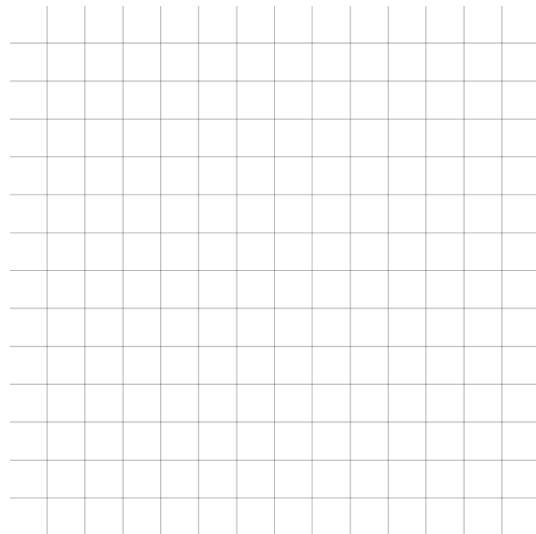
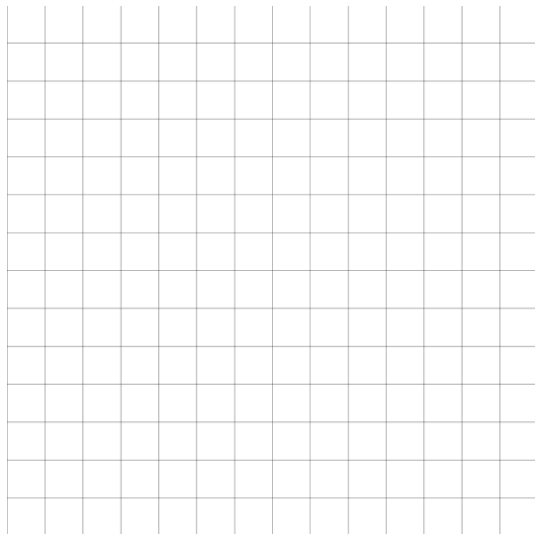
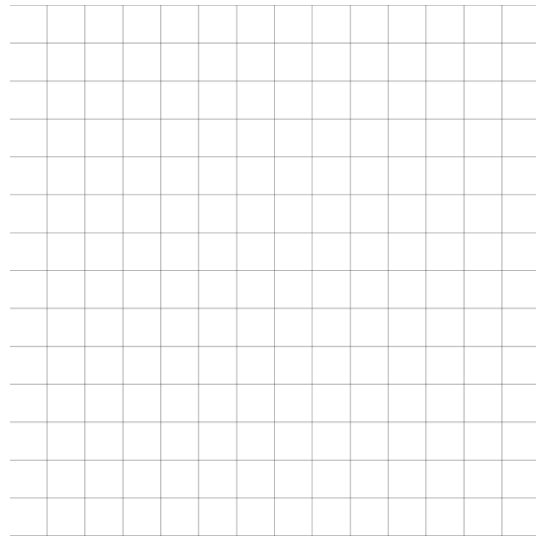
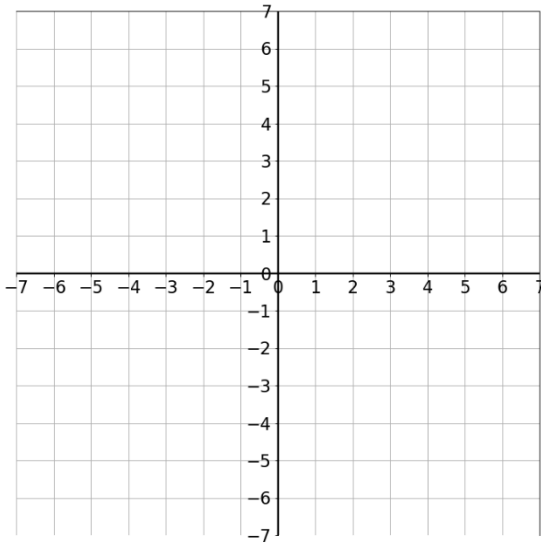


Math 4b. Class work 11.

1. Draw a quadrilaterals, by coordinate, do the necessary measurements

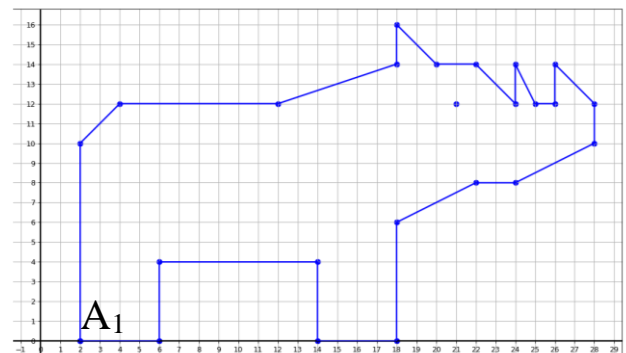
find the types of these quadrilaterals:

- a. $A(-4; 0), B(0; 6), C(3; 4), D(-1; -2)$;
- b. $A(1; 4), B(4; 0), C(0; -3), D(-3; 1)$;
- c. $A(-6; 1), B(0; 3), C(2; 0), D(-4; -2)$;
- d. $A(3; 0), B(0; -2), C(-4; 0), D(2; 4)$.

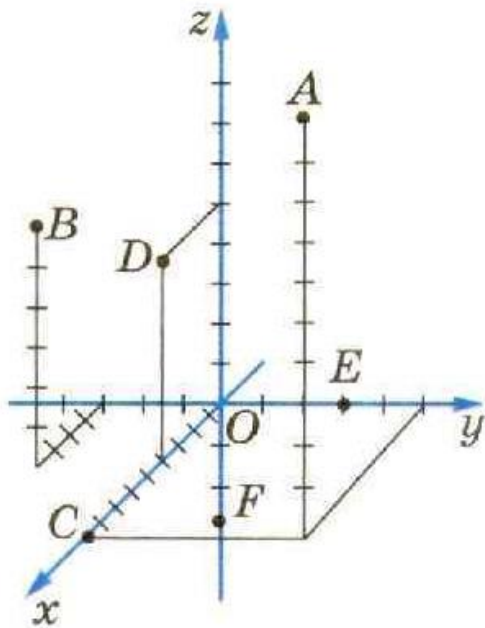
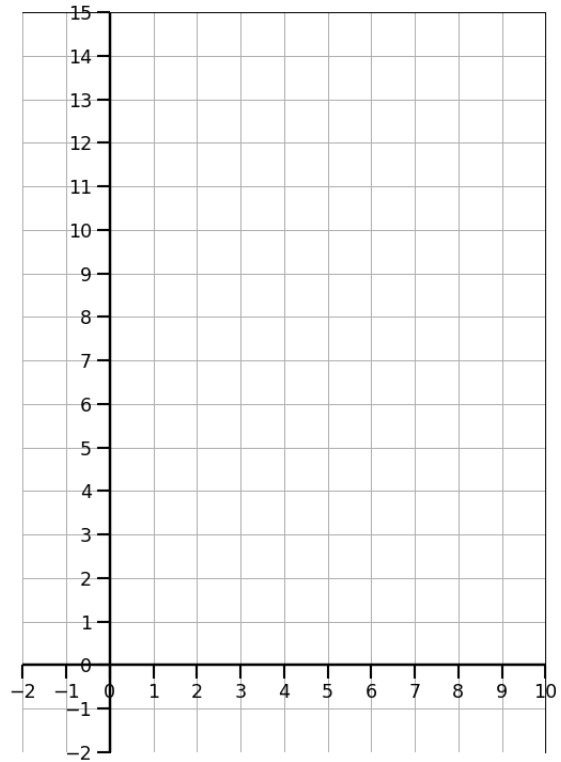


2. Mark the points on the picture by coordinates:

- $A_1(2, 0), A_2(2, 10), A_3(4, 12), A_4(12, 12), A_5(18, 14),$
- $A_6(18, 16), A_7(20, 14), A_8(22, 14), A_9(24, 12), A_{10}(24,$
- $14), A_{11}(25, 12), A_{12}(26, 12), A_{13}(26, 14), A_{14}(28,$
- $12), A_{15}(28, 10), A_{16}(24, 8), A_{17}(22, 8), A_{18}(18, 6), A_{19}$
- $(18, 0), A_{20}(14, 0), A_{21}(14, 4), A_{22}(6, 4), A_{23}(6, 0), A_1$
- $(2, 0), A_{25}(21, 12)$



3. Mark the points by coordinates, connect the points in order they are arranged, see what you got!
 (2,12), (2,13), (3,13.5), (4,13.5), (5,13), (3,4), (8,4), (6,1), (3,1), (2,2), (2,4), (4,11), (4,12.5), (3.5,12.5), (2,11), (2,12), (3,12), (3,3), (4,2), (6,2), (3,3), eye:
 $(2\frac{1}{2}, 12\frac{1}{2})$



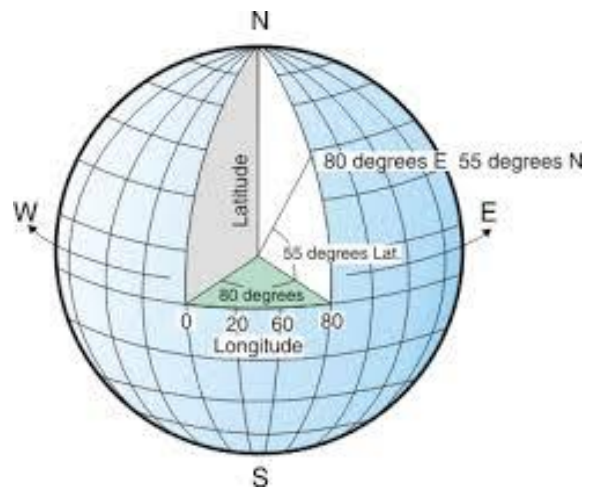
Find the coordinates of the points A, B, C, D, E and F.

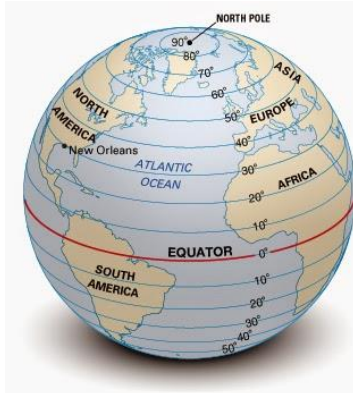
Earth coordinate system:

Earth coordinate system: A *geographic coordinate system* uses a three-dimensional spherical surface to determine locations on the earth. Any location on earth can be referenced by a point with longitude and latitude coordinates. The values for the points can have the following units of measurement:

- Decimal degrees
- Decimal minutes
- Decimal seconds

For example, the following figure shows a geographic coordinate system where a location is represented by the coordinates longitude 80 degree East and latitude 55 degree North

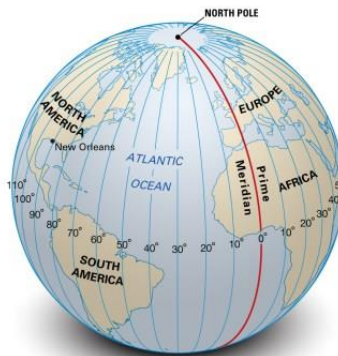




FACTS ABOUT LINES OF LATITUDE

- Are known as parallels.
- Run in an east-west direction.
- Measure distance north or south from the Equator.
- Are parallel to one another and never meet.
- Cross the prime meridian at right angles.
- Lie in planes that cross the Earth's axis at right angles.
- Get shorter toward the poles, with only the Equator, the longest, a great circle.

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FACTS ABOUT LINES OF LONGITUDE

- Are known as meridians.
- Run in a north-south direction.
- Measure distance east or west of the prime meridian.
- Are farthest apart at the Equator and meet at the poles.
- Cross the Equator at right angles.
- Lie in planes that pass through the Earth's axis.
- Are equal in length.
- Are halves of great circles.

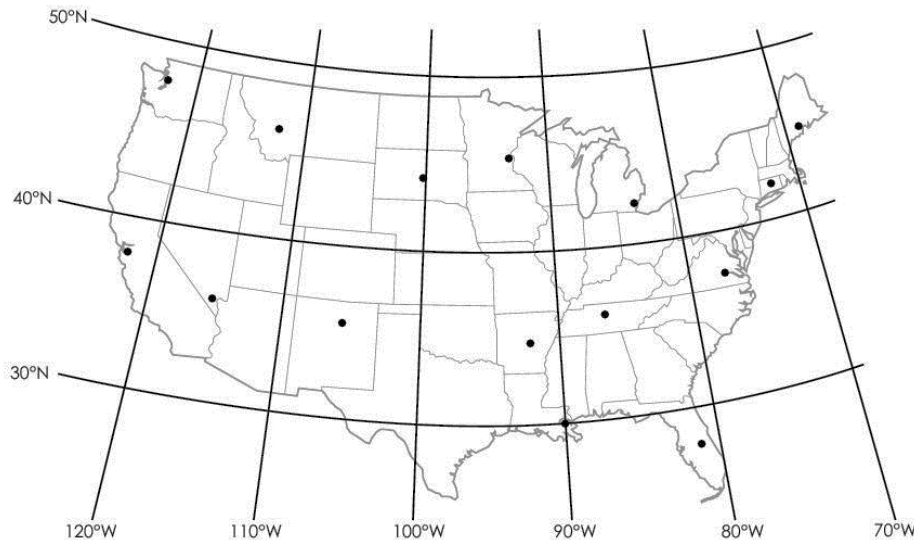
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Latitude and Longitude



- Detroit, Michigan: 42°N, 83°W
- New Orleans, Louisiana: 30°N, 90°W
- Orlando, Florida: 28°N, 81°W
- Hartford, Connecticut: 42°N, 72°W
- Las Vegas, Nevada: 36°N, 115°W
- Seattle, Washington: 47°N, 122°W
- Augusta, Maine: 44°N, 69°W
- Minneapolis, Minnesota: 45°N, 93°W
- Richmond, Virginia: 37°N, 77°W
- Pierre, South Dakota: 44°N, 100°W
- Santa Fe, New Mexico: 35°N, 106°W
- Helena, Montana: 46°N, 112°W
- Little Rock, Arkansas: 35°N, 92°W
- San Francisco, California: 38°N, 122°W
- Nashville, Tennessee: 36°N, 87°W

Latitude and Longitude



1. 33°N latitude, 112°W longitude _____
2. 35°N latitude, 78°W longitude _____
3. 46°N latitude, 96°W longitude _____
4. 45°N latitude, 122°W longitude _____
5. 29°N latitude, 95°W longitude _____
6. 43°N latitude, 79°W longitude _____
7. 25°N latitude, 80°W longitude _____

Exercises:

1. Evaluate:

$$\frac{1}{1 \cdot 2} + \frac{1}{2 \cdot 3} + \frac{1}{3 \cdot 4} + \frac{3}{4 \cdot 5} + \frac{1}{5 \cdot 6} + \frac{3}{6 \cdot 7} + \frac{1}{7 \cdot 8} + \frac{3}{8 \cdot 9} + \frac{1}{9 \cdot 10};$$

2. A mother left a plate of plums for her three sons and went to work. The youngest son came home from school first. Seeing the plums on the plate, he ate a third of them and went for a walk. The middle son came next. Thinking that his brothers hadn't eaten the plums, he ate a third of what was on the plate and also went for a walk. The eldest son came last and ate 4 plums - a third of the plums he saw on the plate. How many plums were there at the beginning?
3. Find the number if $\frac{2}{3}$ of it is equal to the number, $\frac{5}{6}$ of which is 25.