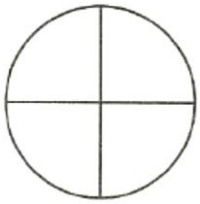
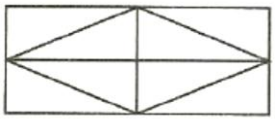
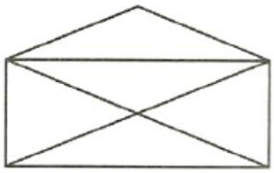
Math 4. Graphs

Can we draw a picture without tracing twice any segment in a figure?
Can you tell right away which figure can be traced this way and which cannot?







A point is called a **vertex** (plural vertices)
A line is called an **edge**
The whole diagram is called a **graph**.
The **degree** is how many edges connect to the point.
Figure can be traced without lifting your pen and without retracing if:
It has exactly 0 or 2 vertices with an odd degree.

Homework:

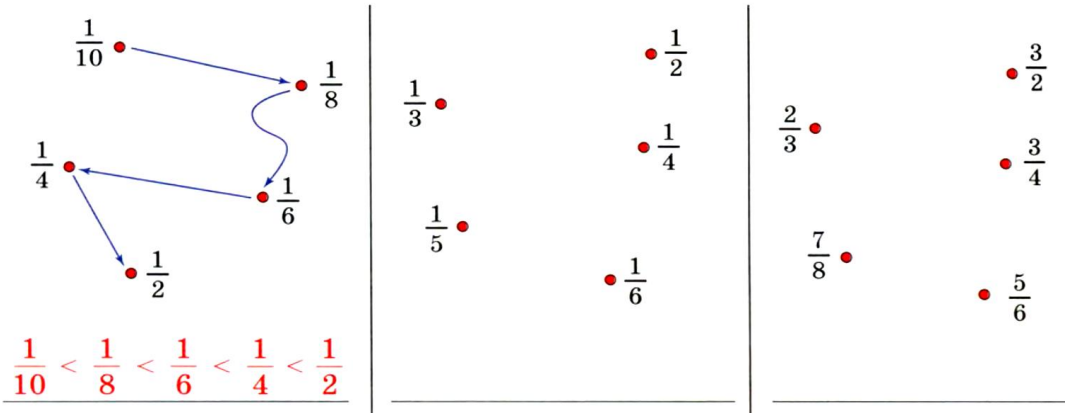
1. A snapping turtle and a painted turtle start to go down to the lake at the same time. The snapping turtle is 80 meters from the lake, and he can crawl 125 cm every 5 minutes. The painted turtle is 16 meters further away from the lake, but he can crawl 12 dm every 4 minutes. Which turtle reaches the lake first if they keep on going by their own speeds and never rest?

2. Solve the following equations:

$2x - 4 = x + 8$ $\qquad$ $\frac{1}{2} + y = 3$ $\qquad$ $z - \frac{1}{3} = \frac{2}{3}$

3. Connect the fractions in increasing order, as shown:

Example:



4. Simplify:

a) $\frac{m^{20}}{m^8} =$

b) $\frac{m^{n+12}}{m^n} =$

c) $\frac{4b-ab}{b} =$

5. Find the area of the shapes: