Basics: How to create simulations with GeoGebra

You should only animate objects (and those who are depending) which move along a line (segment, circle or a part of curve).

Draw a *segment* and an *circle* and put a point on it (by *point on object*). You can animate these points by right mouse click -> *Animation*. Observe its way of moving. Change it by clicking it -> *Properties* -> *Algebra.*
Note differences.

1. Draw a line, put a point on it and animate this point. What do you observe now?

Normally you should be sure which points you like to animate <u>before</u> starting a construction. Butz there is a possibility to do it rather of the end of your construction. Basic points can later be attached to a segment or a circle or a graph of a function).
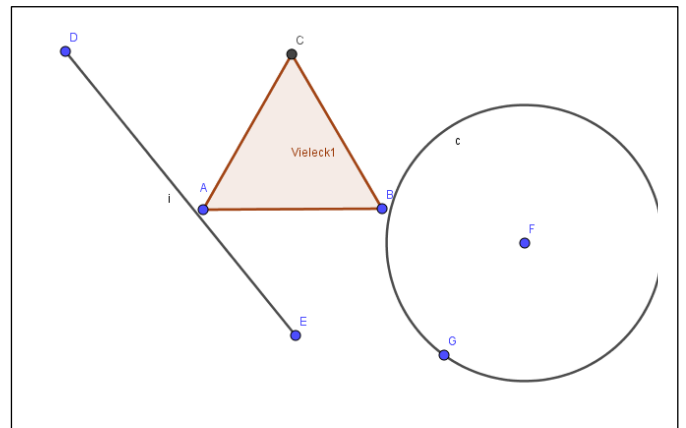
2. Cinstruct an equilateral triangle (e.g. by a regular polygon with three points A, B, V a segment DE and a circle with midpoint and point on the circle, like in the picture left. A and b should be
3. Only near the segment and the circle.

   By using the command Attach/Detach

   point in the Point-Menu you can attach the vertices A to the segment and B to the circle.

Make experiments with your test-figure to get a first feeling about different way of animation.
This alternative of animation does not work all the time. Find reasons why not.

And now to a project „DANCING FIGURES"

Your task: create stick figures that do dancing movements!

Hints:
1. Make first a draft on paper and thinks about joints of the limb as animation points. Think also about the lines on which e.g. arms should move.

2. Keep in mind:
Movements forwards and backwards on a segment -> length of the segment that is connected to the animated point will change its length.
Movements on a circle -> length of the segment that is connected to the animated point will remain the same while animation and rotates.
Movements on a semicircle -> length of the segment that is connected to the animated point will remain the same while animation and rotates only on the path of the semicircle.
Sometimes a circular arc or circumcircular arc are better to control the movement than a full circle.

3. Animate the points <u>one after the other</u>. Use speed between 1-4 for testing. Keep the names of the animation points in mind.

4. If your result is perfect for you, hide all labels and point that you don't need. Now you can translate or reflect your figure easily at one go if you have marked the whole figure before.