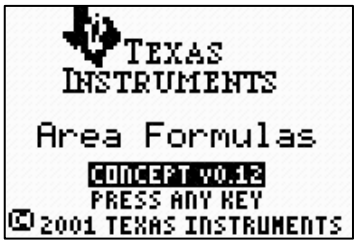
Area Formulas

CATEGORY
Reference, Test, Practice



DESCRIPTION
Area Formulas reviews the definitions and the area formulas for the rectangle, square, parallelogram, triangle, trapezoid and circle.

DIDACTICAL SUGGESTIONS
Area Formulas explains the development of the formulas graphically by using animations and gives several examples of the calculation of the area for each shape. Additionally there is included a 15-question multiple-choice quiz providing practice at applying the formulas.

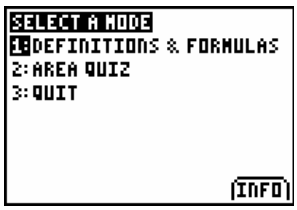
The application Area Formulas consists of two parts:

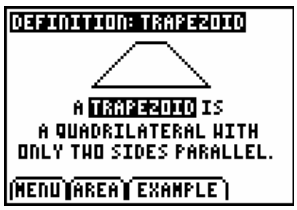
- Definitions and formulas – reference,
- Area quiz – test.

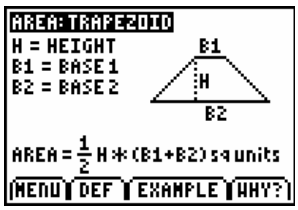
a. Viewing definitions, formulas and examples

To display information about shapes, select `DEFINITIONS & FORMULAS` from the `SELECT A MODE` menu. The `SELECT A SHAPE` menu will be displayed.

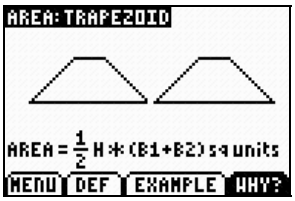
If you select `5: TRAPEZOID` for example, you get information about the shape definition of a trapezoid. Use the function keys (`F1`, …, `F5`) to return to the menu or to select `AREA` or `EXAMPLE`.

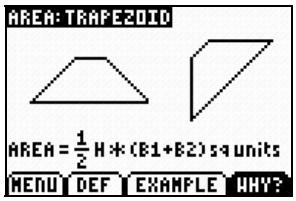


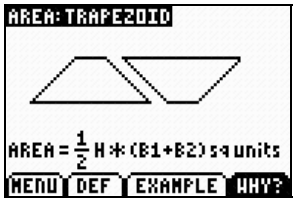


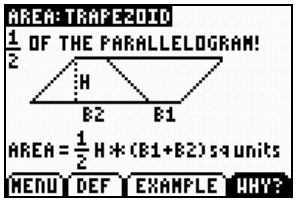


The `WHY?` option displays an explanation of the area formula.



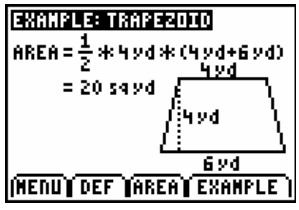


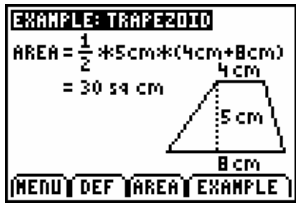




Select `EXAMPLE` to display the calculation of the shape's area.

Select `EXAMPLE` a second time and you will get a different example for the same shape.

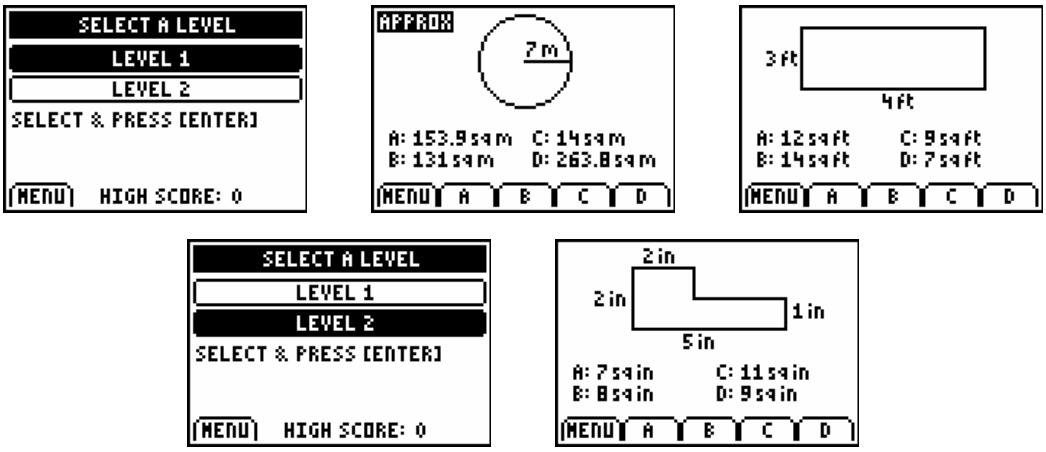




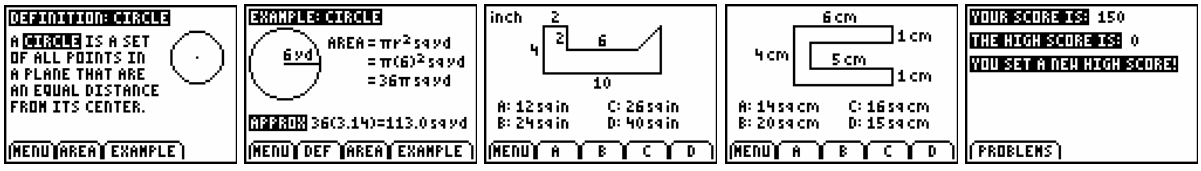
b. Taking a quiz

The Area Formulas quiz contains two levels. Level one assesses the student's ability to compute the area of basic shapes. Level two is a bit more challenging, assessing the ability to compute the area of irregularly shaped objects.

Calculate the area and then select the letter that corresponds to your answer. Your answer will be checked and then the next problem will be displayed.



Each quiz consists out of 15 problems. Each correct answer in level one is worth 12 points and in level two 25 points. Incorrect answers are worth 0 points in both levels.



POINT OF VIEW

Students like to deal with the 15 question multiple-choice quiz, which is included providing practice at applying the formulas. There are two levels of the quiz and high scores are saved. This is a very challenging feature for the students.

The application can be used for reviewing the definitions of special shapes, too, but only under certain circumstances. The development of the area formulas is shown by animation. Visualization and animation are very important didactical tools and students can see how to apply the area formula and why the formula is exactly this one and not another one. They can take part in the developing process in a very simple way by using this software. Experiences show that the students have to be made aware of this feature, because by themselves they only deal with the quiz.

At the end of the quiz, the student's score and the high score are displayed and that is very challenging for the students.