



INTERFIS PROYECTOS EDUCATIVOS REPOSITORIO

CENTRO DE GRAVEDAD

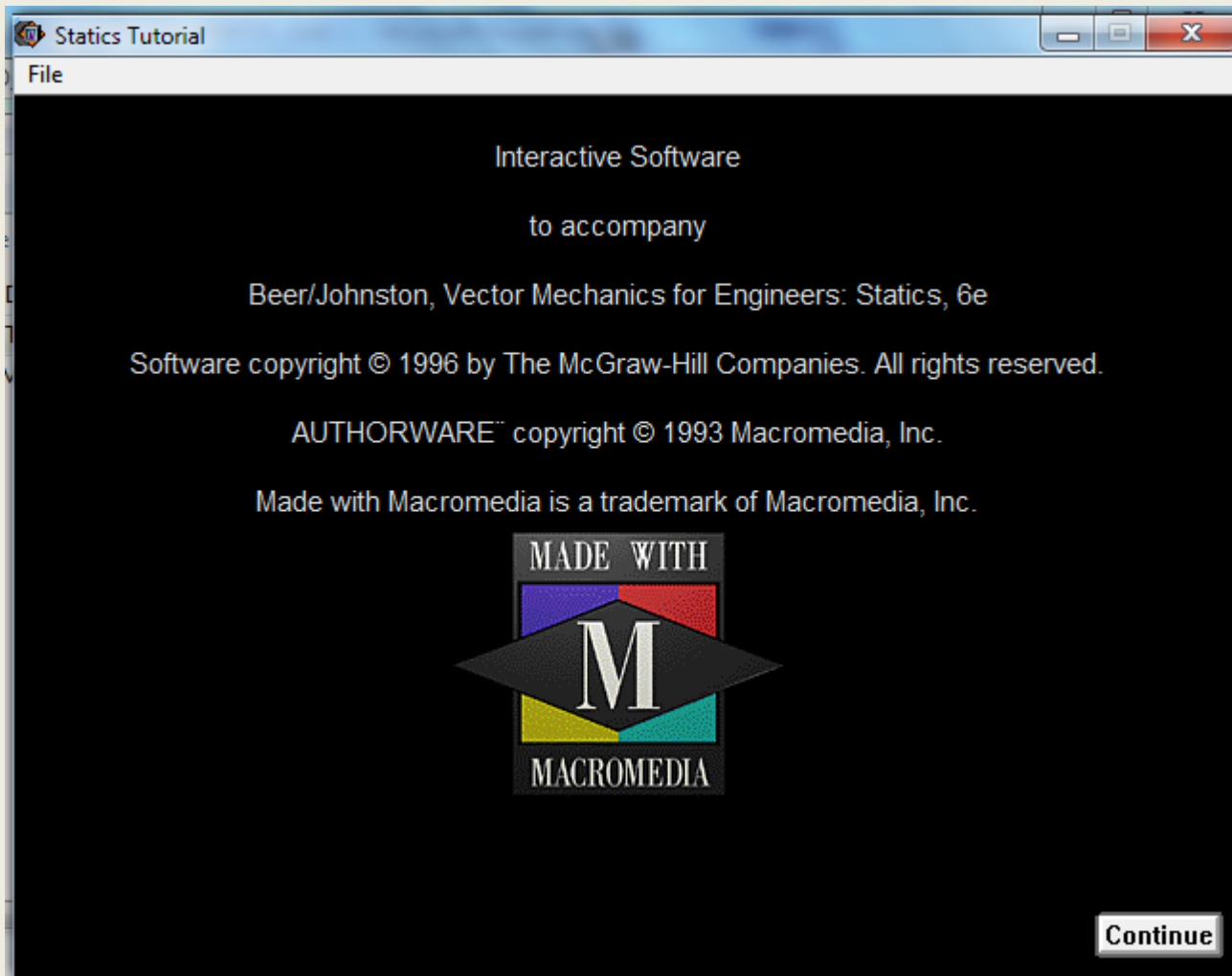
Ejercicios paso a paso a partir de Software STATICS

CENTRO DE GRAVEDAD DE FIGURAS PLANAS (CENTROIDS. QUIZ)

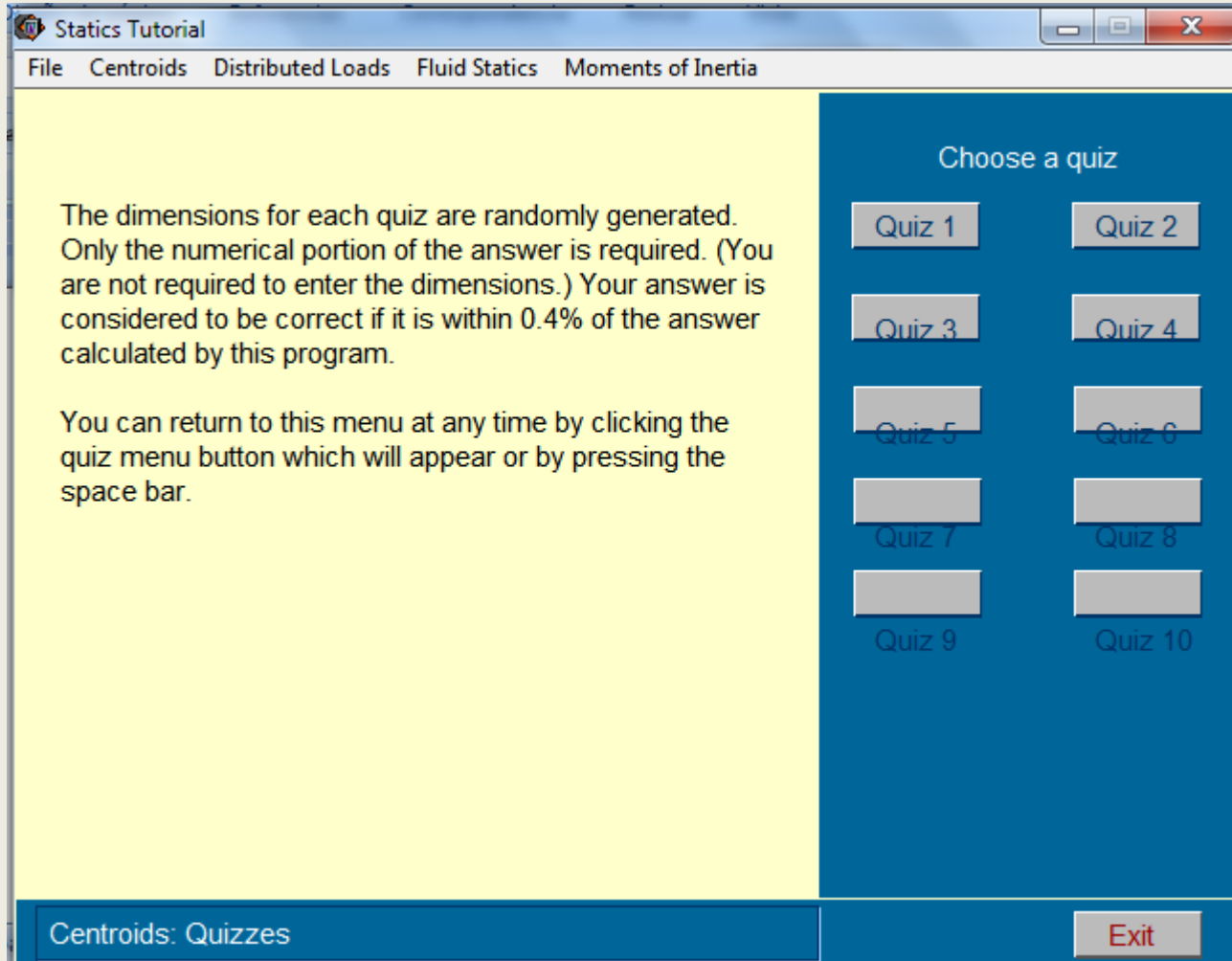
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Los ejercicios siguientes se realizan con el **SOFTWARE STATICS**, incluido en “MECÁNICA VECTORIAL PARA INGENIEROS. ESTÁTICA”. Sexta edición. McGRAW-HILL. 1997 ISBN 84-481-1079-X.

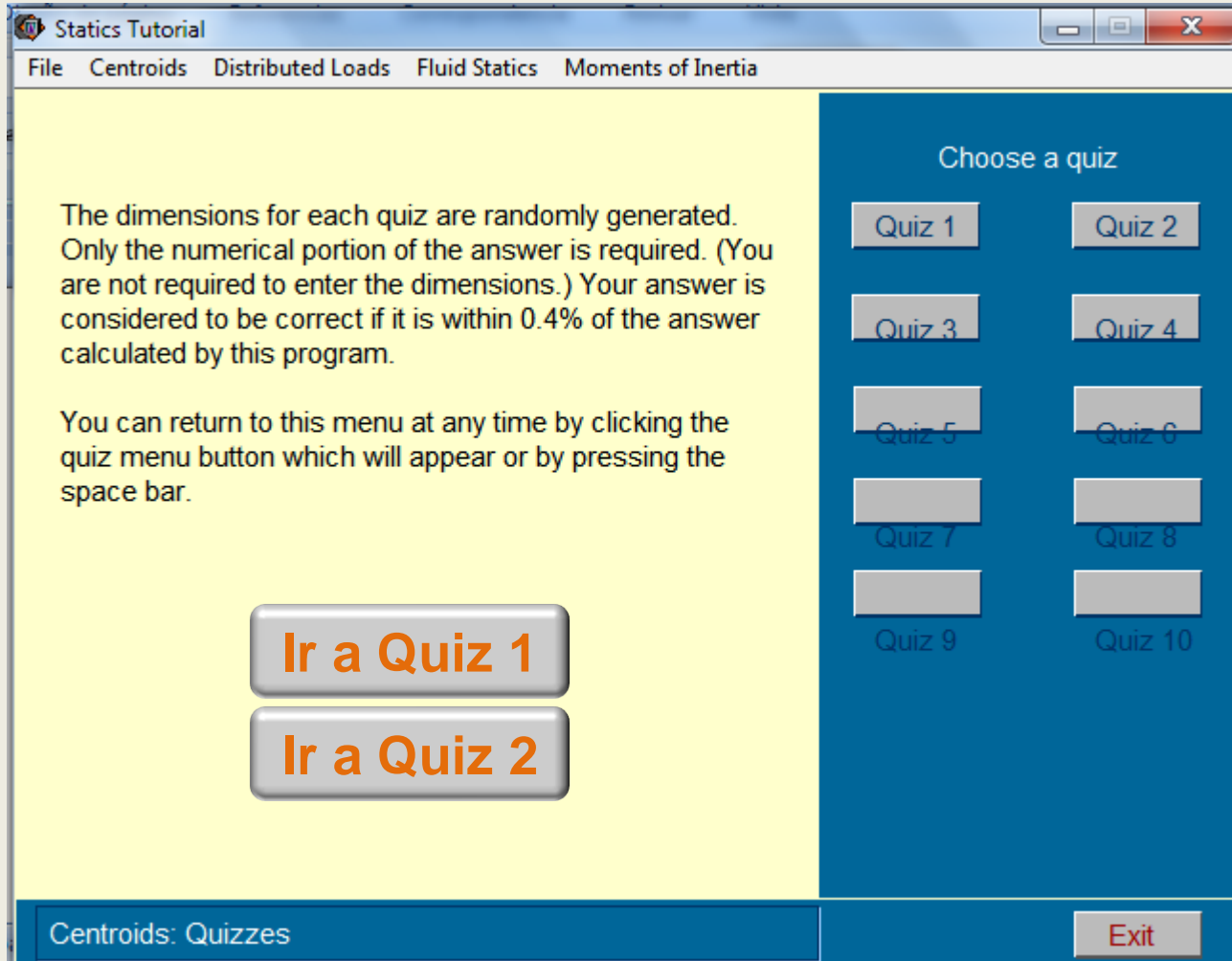
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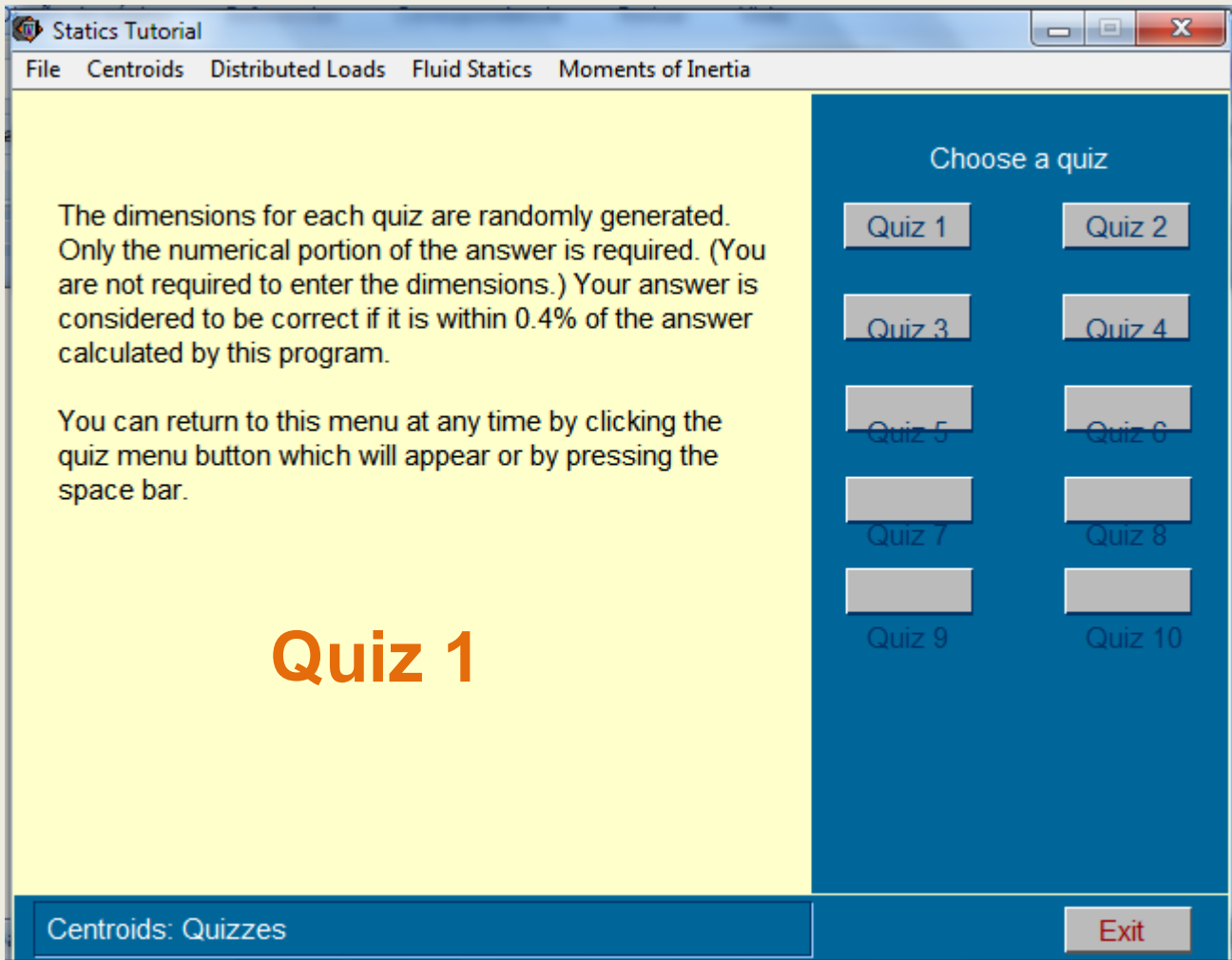


CENTRO DE GRAVEDAD DE FIGURAS PLANAS (CENTROIDS. QUIZ)



CENTRO DE GRAVEDAD DE FIGURAS PLANAS (CENTROIDS. QUIZ)





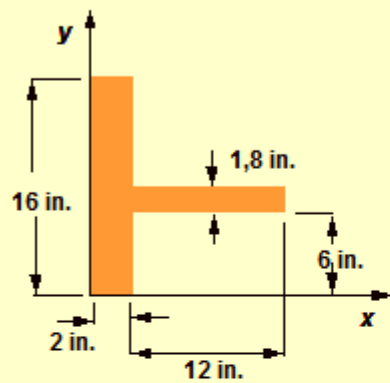
Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia

Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

$\bar{x} =$

Centroids: Quizzes#1 [Quiz Menu](#)



Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

\bar{x} =

The correct answer is $\bar{x} = 3,82$ in.

Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia

Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

$\bar{y} =$

Centroids: Quizzes#1 [Quiz Menu](#)

Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia

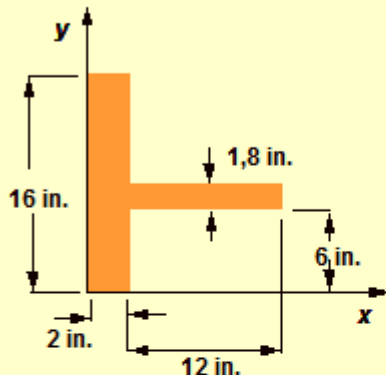
Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

The correct answer is $\bar{y} = 7,56$ in.

Centroids: Quizzes#1 [Quiz Menu](#) [Continue](#)

Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia



Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

Do you want to see the solution?

Yes No

Centroids: Quizzes#1

Quiz Menu

Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia

The diagram illustrates the decomposition of an L-shaped area into two sections for centroid calculation. The original shape is shown on the left with dimensions: a vertical leg of 16 in. and a horizontal leg of 12 in. The horizontal leg is 2 in. wide. The centroid of the horizontal leg is 1.8 in. from its right edge, and the centroid of the vertical leg is 6 in. from its bottom edge. The decomposition shows section 1 as a vertical rectangle of height 8 in. and width 1 in., and section 2 as a horizontal rectangle of height 6.9 in. and width 8 in. The sections are separated by a plus sign, indicating they are added together to form the original shape.

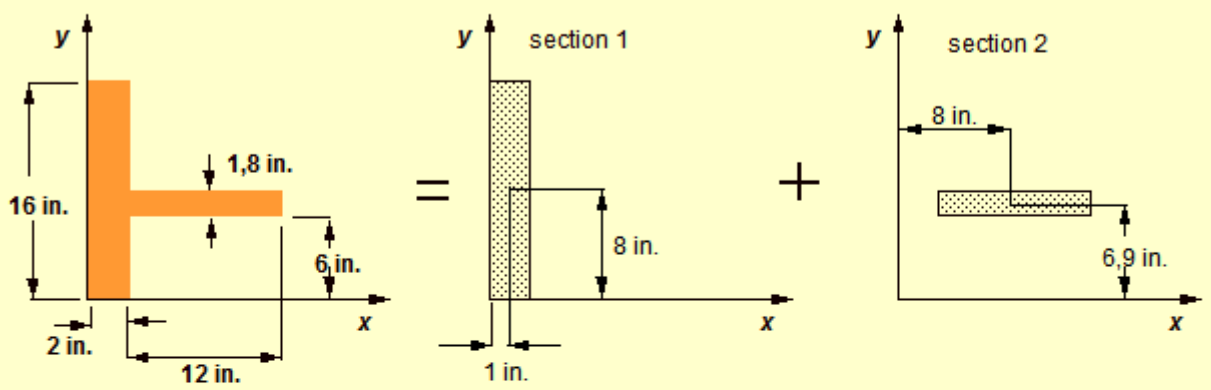
Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

A possible model for this problem is shown here.

Centroids: Quizzes#1

Quiz Menu

Continue



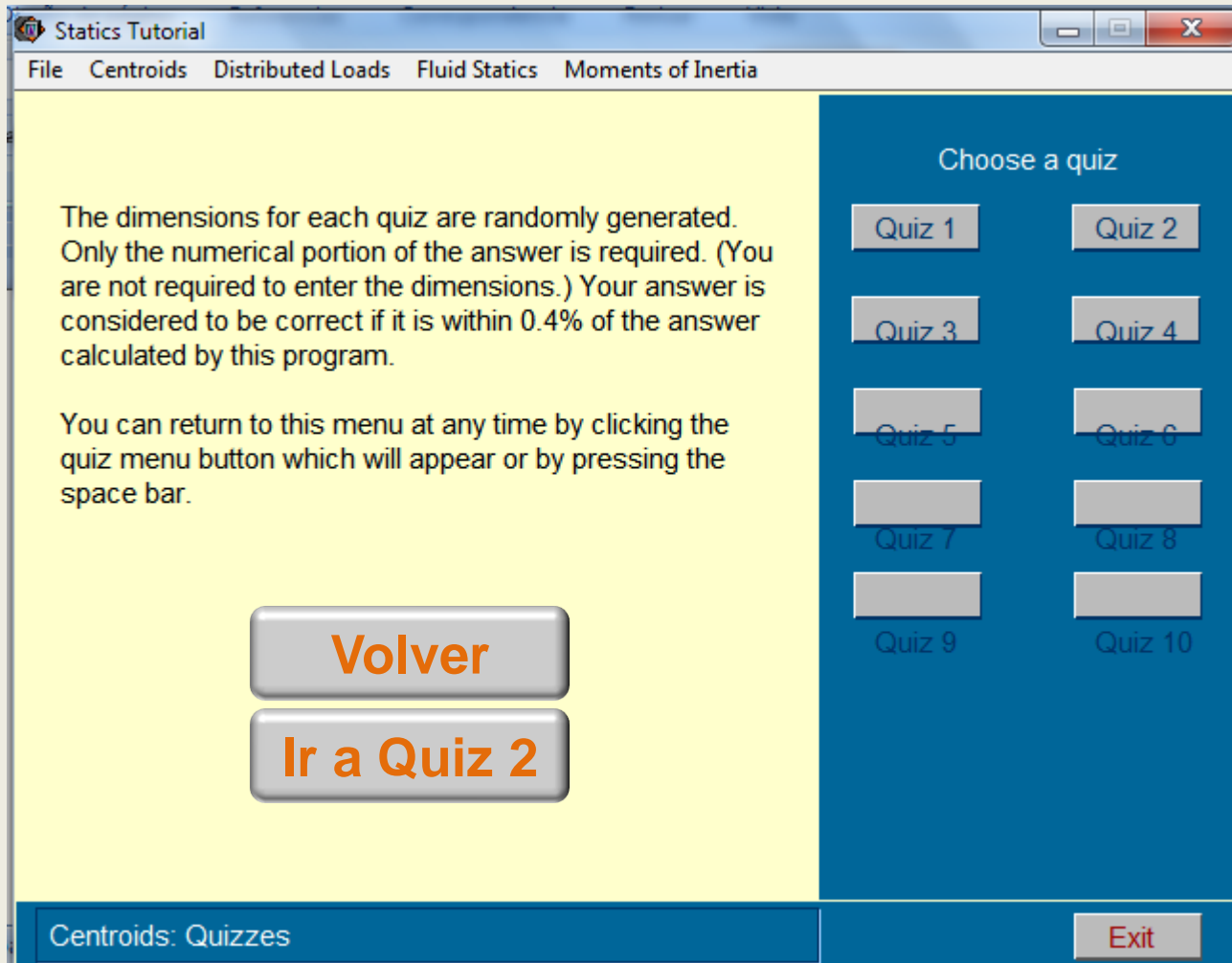
Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

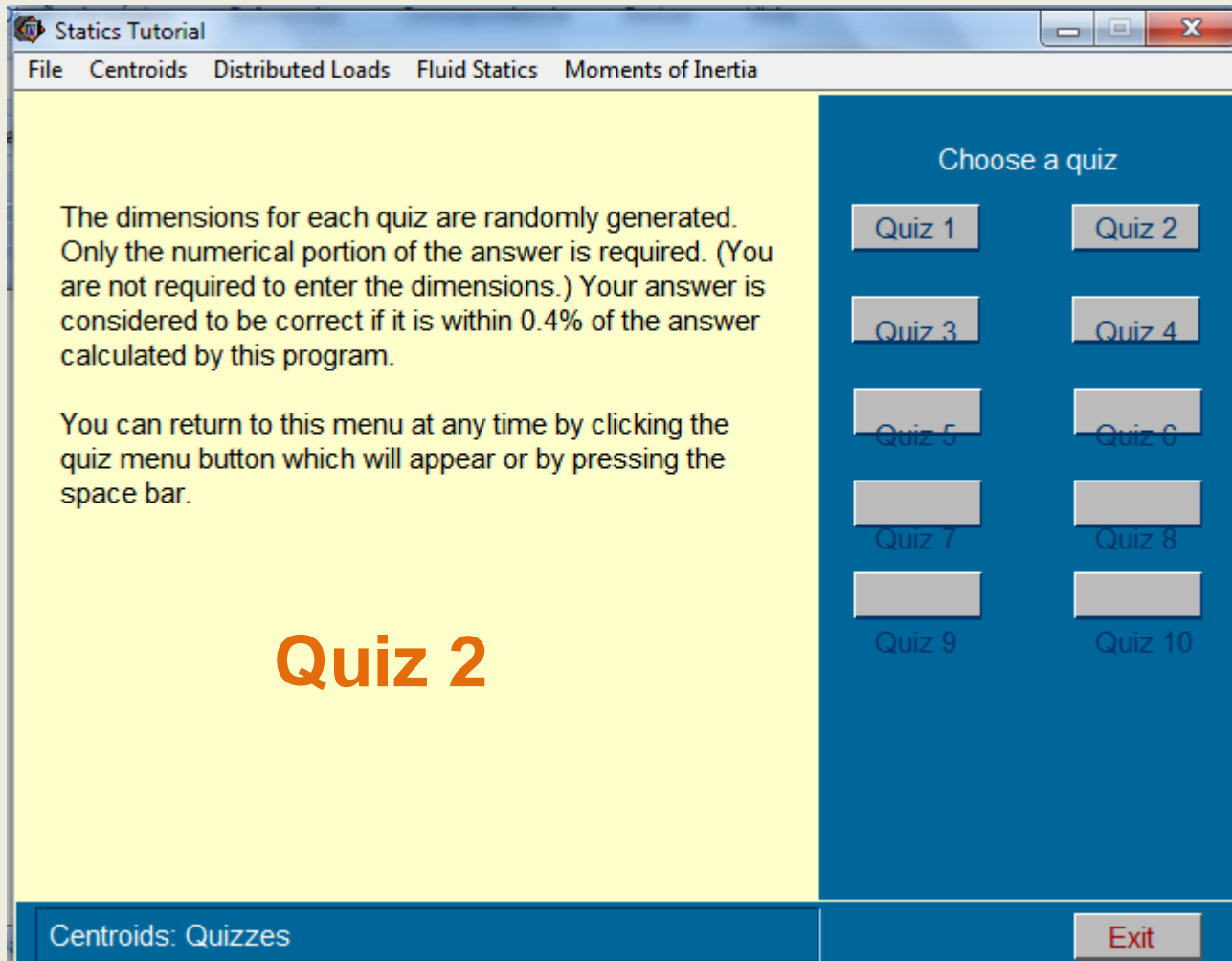
A possible model for this problem is shown here. After the model is established, a table can be constructed for computing the centroid.

section	Area	\bar{x}	\bar{y}	$A\bar{x}$	$A\bar{y}$
1	$(2)(16)=32$	1	8	32	256
2	$(12)(1.8)=21.6$	8	6.9	172.8	149.04
	53.6			204.8	405.04

$$\bar{x} = \frac{204.8}{53.6} = 3.82 \text{ in.} \quad \bar{y} = \frac{405.04}{53.6} = 7.56 \text{ in.}$$

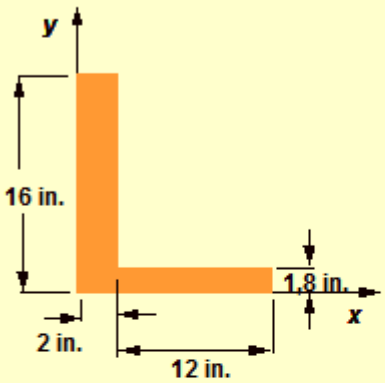
CENTRO DE GRAVEDAD DE FIGURAS PLANAS (CENTROIDS. QUIZ)





Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia



The diagram shows an L-shaped plane area in the first quadrant of a Cartesian coordinate system. The vertical leg has a height of 16 in. and is located 2 in. from the y-axis. The horizontal leg has a width of 12 in. and a thickness of 1.8 in. The horizontal leg is located 1.8 in. from the x-axis. The origin (0,0) is at the bottom-left corner of the vertical leg.

Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

$\bar{x} = \triangleright$

Centroids: Quizzes#2 [Quiz Menu](#)

Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia

Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

\bar{x} = The correct answer is $\bar{x} = 3.82$ in.

Centroids: Quizzes#2 Quiz Menu Continue

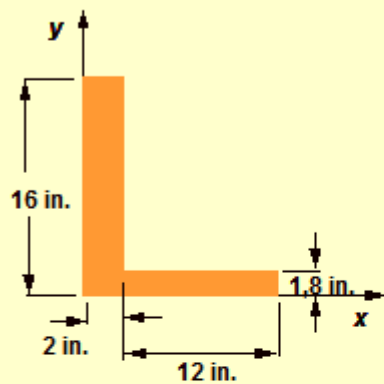
Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia

Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

$\bar{y} =$

Centroids: Quizzes#2 [Quiz Menu](#)



Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

$\bar{y} =$

The correct answer is $\bar{y} = 5.14$ in.

Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia

Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

Do you want to see the solution?

Yes No

Centroids: Quizzes#2 Quiz Menu

Statics Tutorial

File Centroids Distributed Loads Fluid Statics Moments of Inertia

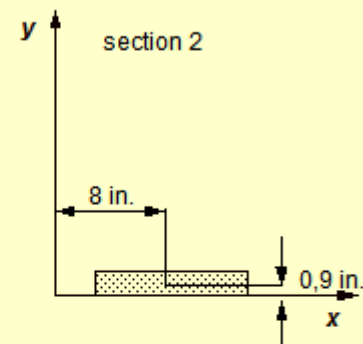
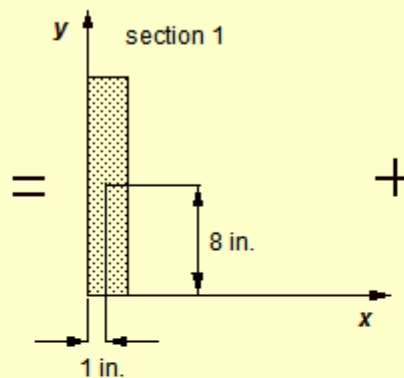
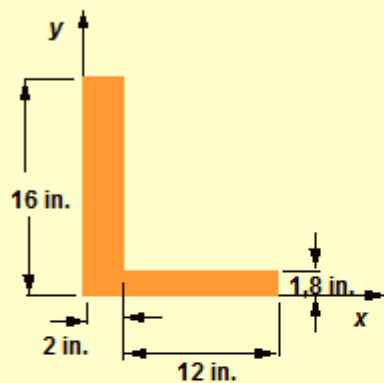
Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

A possible model for this problem is shown here.

Centroids: Quizzes#2

Quiz Menu

Continue



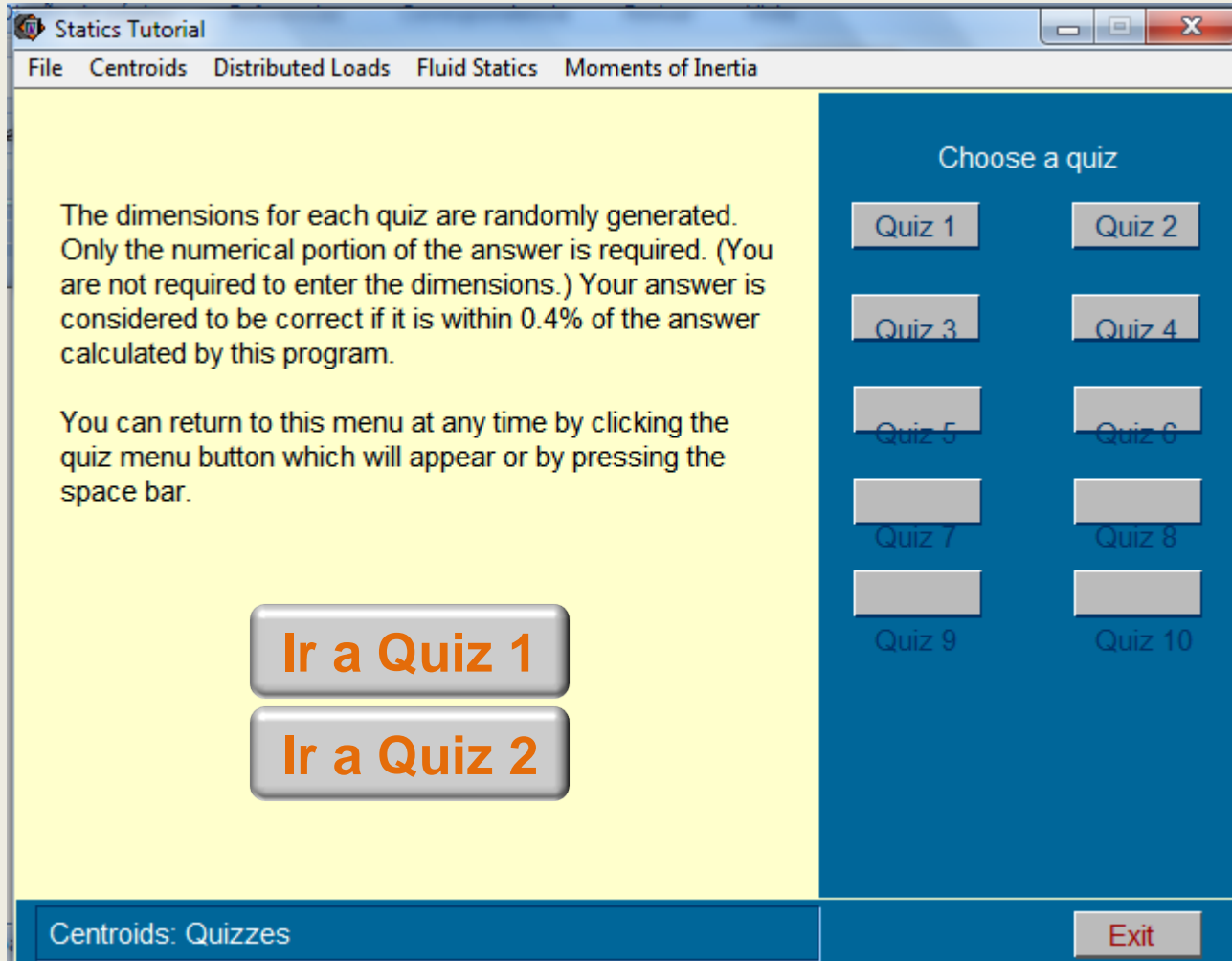
Determine the \bar{x} and \bar{y} coordinates of the plane area shown.

A possible model for this problem is shown here. After the model is established, a table can be constructed for computing the centroid.

section	Area	\bar{x}	\bar{y}	$A\bar{x}$	$A\bar{y}$
1	$(2)(16)=32$	1	8	32	256
2	$(12)(1.8)=21,6$	8	0,9	172,8	19,44
	53,6			204,8	275,44

$$\bar{x} = \frac{204,8}{53,6} = 3,82 \text{ in.} \quad \bar{y} = \frac{275,44}{53,6} = 5,14 \text{ in.}$$

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