

ACT
Directions and Sample Questions
MATH

Directions: Solve each problem, choose the correct answer, and then fill in the corresponding oval on your answer document.

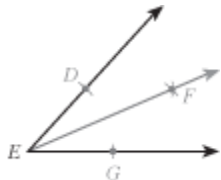
Do not linger over problems that take too much time. Solve as many as you can; then return to the others in the time you have left for this test.

You are permitted to use a calculator on this test. You may use your calculator for any problems you choose, but some of the problems may best be done without using a calculator.

Note: Unless otherwise stated, all of the following should be assumed.

1. Illustrative figures are NOT necessarily drawn to scale.
2. Geometric figures lie in a plane.
3. The word *line* indicates a straight line.
4. The word *average* indicates arithmetic mean.

Sample question: In the figure below, ray \overrightarrow{EF} was constructed starting from rays \overrightarrow{ED} and \overrightarrow{EG} . By using a compass, D and G were marked equidistant from E on rays \overrightarrow{ED} and \overrightarrow{EG} . The compass was then used to locate a point F , distinct from E , so that F is equidistant from D and G . For all constructions defined by the above steps, the measures of $\angle DEF$ and $\angle GEF$:



- F. are equal.
- G. are NOT equal.
- H. sum to 30° .
- J. sum to 45° .
- K. sum to 60° .

Sample question: When $x = 3$ and $y = 5$, by how much does the value of $3x^2 - 2y$ exceed the value of $2x^2 - 3y$?

- F. 4
- G. 14
- H. 16
- J. 20
- K. 50