

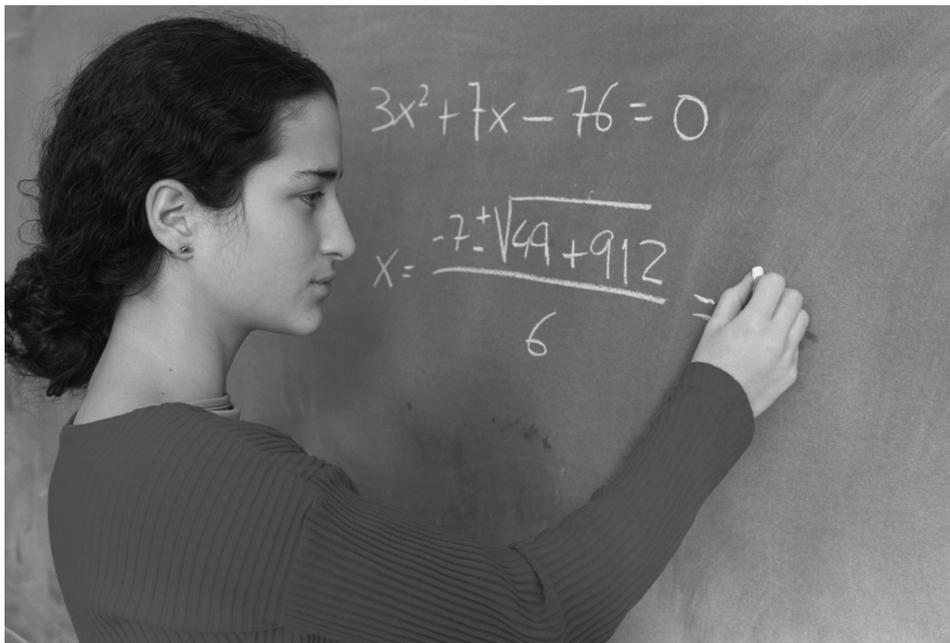


# Oklahoma School Testing Program

## Oklahoma Core Curriculum Tests (OCCT)

End-of-Instruction  
ACE Algebra I

**PARENT, STUDENT, AND TEACHER GUIDE**



**Winter/Trimester 2014 - 2015**

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**Oklahoma State Department of Education**

## **Testing Dates**

Please reference the Oklahoma State Department of Education Web site for the most current testing dates:

- <http://ok.gov/sde/assessment-administrator-resources-administrators>

### **Acknowledgement**

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**STATE SUPERINTENDENT OF PUBLIC INSTRUCTION  
STATE OF OKLAHOMA**

Dear Parent/Guardian and Student:

Soon students will be participating in the ACE Algebra I End-of-Instruction Oklahoma Core Curriculum Test. This test is designed to measure knowledge of Algebra I competencies contained in the Oklahoma Academic Standards, the basis of Oklahoma's core curriculum.

You will receive a report about your child's performance on the test. If your student does not attain at least a proficient score on this test, retake opportunities will be available.

This guide provides practice questions, objectives covered in the test, and a list of test-taking tips. Discuss these materials with your child ahead of time to encourage test preparedness. During the test week, it is very important for students to get plenty of sleep, eat a good breakfast, and arrive at school on time.

If you have any questions about the ACE Algebra I End-of-Instruction Test, please contact your local school or the State Department of Education.

Sincerely,  
Your State Superintendent of Public Instruction



# Table of Contents

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TESTING DATES .....	INSIDE FRONT COVER
THE OKLAHOMA CORE CURRICULUM TESTS .....	1
TEST-TAKING TIPS .....	3
THE ACE ALGEBRA I TEST .....	4
Oklahoma Academic Standards .....	5
End-of-Instruction ACE Algebra I .....	5
Alignment Blueprint .....	7
ACE ALGEBRA I PRACTICE TEST .....	8
ANSWER KEY .....	18
ANSWER DOCUMENT .....	INSIDE BACK COVER

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# The Oklahoma Core Curriculum Tests

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The Governor, state legislators, and other Oklahoma elected officials have committed themselves to ensuring that all Oklahoma students receive the opportunity to learn the skills required to succeed in school and in the workplace. To achieve this goal, schools must prepare every Oklahoma student for colleges, universities, and careers that require new and different skills.

Under the direction of the Legislature, Oklahoma teachers, parents, and community leaders met to agree upon the skills that students are expected to master by the end of each grade. The results of their efforts, the Oklahoma Academic Standards, provide the basis for Oklahoma's core curriculum.

In addition, the Legislature established the criterion-referenced test component of the Oklahoma School Testing Program to measure students' progress in mastering the Oklahoma Academic Standards. Tests have been developed by national test publishers that specifically measure the standards and objectives of the Oklahoma Academic Standards at the end-of-instruction levels. Teachers from throughout Oklahoma have been involved in the review, revision, and approval of the questions that are included in the tests.

In contrast to a norm-referenced testing program, the Oklahoma Core Curriculum Tests compare student performance with performance standards established by the State Board of Education. The performance standards are based upon recommendations from groups of Oklahoma educators who evaluated the test and recommended the performance standards for the different levels of performance for each test. The Oklahoma Performance Index, or OPI, is a scaled score earned by a student that places the student into one of the four performance levels (Advanced, Proficient, Limited Knowledge, Unsatisfactory).

**The state statute reads as follows:** "Each student who completes the instruction for English II, English III, United States History, Biology I, Algebra I, Geometry, and Algebra II at the secondary level shall complete an end-of-instruction test, to measure for attainment in the appropriate state academic content standards in order to graduate from a public high school with a standard diploma."

All students shall take the tests prior to graduation, unless otherwise exempt by law.

Beginning with students entering the ninth grade in the 2008–2009 school year, every student shall demonstrate mastery of the state academic content standards in the following subject areas in order to graduate from a public high school with a standard diploma: Algebra I, English II, and two of the following five: Algebra II, Biology I, English III, Geometry, and United States History.

To demonstrate mastery, the student shall attain at least a proficient score on the end-of-instruction criteria. Students who do not attain at least a proficient score on any end-of-instruction test shall be provided remediation or intervention and the opportunity to retake the test until at least a proficient score is attained on the tests of Algebra I, English II, and two of the following five: Algebra II, Biology I, English III, Geometry, and United States History or may demonstrate mastery of the state academic content standards by alternative methods as approved by the State Board of Education.

Students who do not meet these requirements may graduate from a public high school with a standard diploma by demonstrating mastery of state academic content standards by alternative methods as approved by the State Board of Education.

Students who score ten percent (10%) above the cut scores approved by the State Board of Education for the ACT, SAT, ACT PLAN, or PSAT alternate tests shall be deemed to have satisfactorily demonstrated mastery of the state academic content standards in the subject areas for which alternative tests have been approved and shall be exempt from taking the EOI tests in the subject areas of Algebra II, English III, Geometry, or U.S. History.

Students who have a score that is equal to or above the cut scores approved by the State Board of Education for the Advanced Placement course exams, ACT Workkeys, College-Level Examination Program (CLEP), or International Baccalaureate (IB) alternate tests shall be deemed to have satisfactorily demonstrated mastery of the state academic content standards in the subject areas for which alternative tests have been approved and shall be exempt from taking the EOI tests in the subject areas of Algebra II, English III, Geometry, or U.S. History. The State Board of Education shall adopt rules providing for implementation of the use of these alternate tests.

This guide provides an opportunity for parents, students, and teachers to become familiar with this test. It presents general test-taking tips, lists the Oklahoma Academic Standards objectives that could be assessed in a statewide testing program, and provides practice multiple-choice questions.

# Test-Taking Tips

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The following tips provide effective strategies for taking the Oklahoma Core Curriculum Tests. Test-taking skills cannot replace study based on the standards and objectives of the Oklahoma Academic Standards, which serve as the foundation for the tests.

## General Test-Taking Tips

- DO . . .** read this guide carefully and complete the practice test.
- DO . . .** make sure you understand all test directions. If you are uncertain about any of the directions, raise your hand to ask questions before testing has started.
- DO . . .** make notes or work problems on your scratch paper if needed.
- DO . . .** read each question and every answer choice carefully. Choose the best answer for each question.
- DO . . .** be sure that you have seen all four answer choices before making your selection. On an online test, this may require you to use the scroll bar on the right side of the test question.
- DO . . .** check your work if you finish a test session early. Use the extra time to answer any questions that you skipped in that section.
- DO . . .** remember that if you cannot finish the test within the time allotted, you will be given additional time to complete the test.
  
- DON'T . . .** wait until the last minute to study for the test. The test covers a lot of material, and you cannot learn it all in a short amount of time.
- DON'T . . .** worry about the test. Students who are calm and sure of themselves do better on tests.
- DON'T . . .** spend too much time on any one question. If a question takes too long to answer, skip it and answer the other questions. You can return to any questions you skipped after you have finished all other questions in the section.
- DON'T . . .** attempt to leave the online testing system by clicking the Stop Test tab. Doing so will result in ending that section of the test.

# The ACE Algebra I Test

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This online multiple-choice test is administered in two sections, each approximately 60 minutes in length, with up to an additional 20 minutes for testing directions. The test is not strictly timed. Testing sessions for students who need more time can be extended. However, some studies have shown that more than one hour of additional time can contribute to a decrease in student scores. This additional time is available as an immediate extension of the testing session; it is not available as a separate session at another time.

Students who finish a test section early should make sure their work is complete and are encouraged to check and verify their answers within that section prior to closing their test booklets or saving and exiting an online test. Once a test section has been completed, students will not be allowed to return to that section.

**Calculators may be used on the ACE Algebra I End-of-Instruction Assessment.**

## Subject-specific Requirements

- ACE Algebra I, ACE Geometry, and ACE Biology I:
  - Scientific Calculators meeting general requirements may be used on all/specified sections.
- ACE Algebra II:
  - Graphing Calculators meeting general requirements may be used on all/specified sections.

## General Requirements

- Calculators are permitted but are not required.
- Calculator capabilities described for a specific subject give the *maximum* capabilities allowed; calculators with less capability are acceptable.
- Students may not share calculators.
- Students may use their own calculators or those provided by the school.
- Calculators that make noise must have the sound feature turned off.
- Calculators that have paper tape must have the tape removed.
- Calculators with power cords must have the cord removed.
- All calculators must have the memory cleared before and after the test session.
- Any programs or applications must be removed prior to the test session.

## Prohibited Calculators

- Pocket organizers
- Handheld or laptop computers
- Electronic writing pads or pen-input devices
- Calculators built into cellular phones or other electronic communication devices
- Calculators with a typewriter keypad (QWERTY format)
- **Calculators with programs or applications that cannot be removed or disabled (e.g., Polynomial Root-Finder and Simultaneous Equation Solver on TI-86)**
- Calculators with built-in computer algebra systems, such as, but not limited to:
  - Casio: Algebra fx 2.0, ClassPad 300, and all model numbers that begin with CFX-9970G
  - Texas Instruments: All model numbers that begin with TI-89, TI-92, or TI-Nspire CAS
  - Hewlett-Packard: HP-48GII and all model numbers that begin with HP-40G or HP-49G

## Test Security and Validity

- Using a calculator that does not meet the above requirements invalidates the test results and is a violation of test security and test validity. Any violation will be reported to the State Superintendent and may result in revocation of teaching and/or administrative certificates.

The following sections of this guide:

- list the Oklahoma Academic Standards that are covered on the ACE Algebra I End-of-Instruction test.
- reproduce the student directions.
- present practice test questions.

# Oklahoma Academic Standards (2009 Revision)

Oklahoma Academic Standards measured in the End-of-Instruction ACE Algebra I multiple-choice test are presented below. They represent Oklahoma core curriculum that is applicable to Algebra I course study and that can be assessed in a statewide testing program. The Oklahoma Academic Standards for Algebra I are grouped into standards with specific objectives listed under each one. Student performance on the multiple-choice test will be reported at the standard and objective levels.

## End-of-Instruction ACE Algebra I

**Standard 1: Number Sense and Algebraic Operations—The student will use expressions and equations to model number relationships.**

1. Equations and Formulas
  - a. Translate word phrases and sentences into expressions and equations and vice versa.
  - b. Solve literal equations involving several variables for one variable in terms of the others.
  - c. Use the formulas from measurable attributes of geometric models (perimeter, circumference, area, and volume), science, and statistics to solve problems within an algebraic context.
  - d. Solve two-step and three-step problems using concepts such as rules of exponents, rate, distance, ratio and proportion, and percent.
2. Expressions
  - a. Simplify and evaluate linear, absolute value, rational, and radical expressions.
  - b. Simplify polynomials by adding, subtracting, or multiplying.
  - c. Factor polynomial expressions.

**Standard 2: Relations and Functions—The student will use relations and functions to model number relationships.**

1. Relations and Functions
  - a. Distinguish between linear and nonlinear data.
  - b. Distinguish between relations and functions.
  - c. Identify dependent and independent variables, domain, and range.
  - d. Evaluate a function using tables, equations, or graphs.
2. Linear Equations and Graphs
  - a. Solve linear equations by graphing or using properties of equality.
  - b. Recognize the parent graph of the functions  $y = k$ ,  $y = x$ ,  $y = |x|$ , and predict the effects of transformations on the parent graph.
  - c. Slope
    - I. Calculate the slope of a line using a graph, an equation, two points, or a set of data points.
    - II. Use the slope to differentiate between lines that are parallel, perpendicular, horizontal, or vertical.
    - III. Interpret the slope and intercepts within the context of everyday life (e.g., telephone charges based on base rate [y-intercept] plus rate per minute [slope]).
  - d. Develop the equation of a line and graph linear relationships given the following: slope and y-intercept, slope and one point on the line, two points on the line, x-intercept and y-intercept, or a set of data points.
  - e. Match equations to a graph, table, or situation and vice versa.
3. Linear Inequalities and Graphs
  - a. Solve linear inequalities by graphing or using properties of inequalities.
  - b. Match inequalities (with 1 or 2 variables) to a graph, table, or situation and vice versa.
4. Solve a system of linear equations by graphing, substitution, or elimination.

**Standard 3: Data Analysis, Probability, and Statistics—The student will use data analysis, probability, and statistics to formulate and justify predictions from a set of data.**

1. Data Analysis
  - a. Translate from one representation of data to another and understand that the data can be represented using a variety of tables, graphs, or symbols and that different modes of representation often convey different messages.
  - b. Make valid inferences, predictions, and/or arguments based on data from graphs, tables, and charts.
  - c. Solve two-step and three-step problems using concepts such as probability and measures of central tendency.
2. Collect data involving two variables and display on a scatter plot; interpret results using a linear model/equation and identify whether the model/equation is a line best fit for the data.

**Oklahoma School Testing Program**  
**ACE Algebra I EOI – Test Blueprint**  
**School Years 2014-2015, 2015-2016, 2016-2017**

The blueprint describes the content and structure of an assessment and defines the ideal number of test items by standard and objective of the Priority Academic Student Skills/ Oklahoma Academic Standards (PASS/OAS).

<b>Standards and Objectives</b>	<b>Ideal Number of Items</b>	<b>Ideal Percentage of Items</b>
<b>1.0 Number Sense and Algebraic Operations</b>	<b>15</b>	<b>27%</b>
1.1 Equations and Formulas	6	
1.2 Expressions	9	
<b>2.0 Relations and Functions</b>	<b>31</b>	<b>56%</b>
2.1 Relations/Functions	6	
2.2 Linear Equations and Graphs	15	
2.3 Linear Inequalities and Graphs	6	
2.4 Systems of Equations	4	
<b>3.0 Data Analysis, Probability, &amp; Statistics</b>	<b>9</b>	<b>16%</b>
3.1 Data Analysis	5	
3.2 Line of Best Fit	4	
<b>Total Test</b>	<b>55</b>	<b>100%</b>

*(Please note this blueprint does not include items that may be field-tested.)*

- A minimum of 6 items is required to report a standard, and a minimum of 4 items is required to report results for an objective.
- Percentages are approximations and may result in a sum other than 100 due to rounding.

# ACE Algebra I Practice Test

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*Note for students:*

*The practice test in the following section is a shortened version of a test similar to the End-of-Instruction ACE Algebra I test you will take.*

*Follow the instructions below as you take the practice test.*

## Practice Test Directions

1. Mark your answers to the practice test questions on the inside back cover of this guide.
2. Look at the ACE Algebra I Practice Test on the next page. Read the directions at the top of the page.
3. Look at Sample A in the box. Read it to yourself and think of the answer. Then look at the answer document. The correct answer to Sample A has been filled in. This shows you how to mark your answers.
4. Read Sample B of the ACE Algebra I Practice Test. Mark your answer to Sample B. Then answer the remaining practice questions. Fill in the circle for each answer completely, as shown in the sample. You may underline, mark, make notes, or work out problems in your test booklet. However, make sure you mark your answers on your answer document.
5. When you are finished, check your answers against the answer key printed on page 18 of this guide. The standard, objective, and skill for each question are also shown.

# Section 1

## Directions

Read each question and choose the best answer. Find the question number on the answer document that matches the question number in the ACE Algebra I Practice Test. Then mark your answer on the answer document.

The correct answer for Sample A has been filled in on the answer document to show you how to mark your answers. Mark your answer for Sample B.

### Sample A

$x$	$y$
-1	-3
1	1
4	7

What is the slope of the line that passes through the points in the table?

- A -2
- B  $\frac{5}{8}$
- C  $\frac{8}{5}$
- D 2

### Sample B

$$2x + 8 = -6$$

What is the solution for  $x$ ?

- F  $x = -7$
- G  $x = -1$
- H  $x = 1$
- J  $x = 7$

## Section 1

1

$$(2x + 3)(x - 5)$$

What is the simplified form of this expression?

- A  $2x^2 - 15$
- B  $2x^2 - 2x - 2$
- C  $2x^2 - 7x - 15$
- D  $2x^2 - 2x - 15$

2 What happens to the  $y$ -intercept of the equation  $y = x$  when the equation is changed to  $y = x + 4$ ?

- F The  $y$ -intercept does not change.
- G The  $y$ -intercept changes from 0 to 4.
- H The  $y$ -intercept changes from 0 to  $-4$ .
- J The  $y$ -intercept becomes equal to the  $x$ -intercept.

3 The function  $f(x) = 3x + 2$  has a domain of  $\{-1, 2, 3\}$ . What is the range of this function?

- A  $\{5, 8, 11\}$
- B  $\{-1, 8, 11\}$
- C  $\{-7, -5, 4\}$
- D  $\{-7, -4, -1\}$

**4** Which table represents a linear relationship?

**F**

$x$	$y$
-1	-2
4	8
6	15

**G**

$x$	$y$
0	3
6	9
11	16

**H**

$x$	$y$
0	2
5	7
18	20

**J**

$x$	$y$
-2	-4
0	-2
12	8

**5** What is the slope of the line passing through the points  $(1, 6)$  and  $(2, -3)$  ?

**A** -9

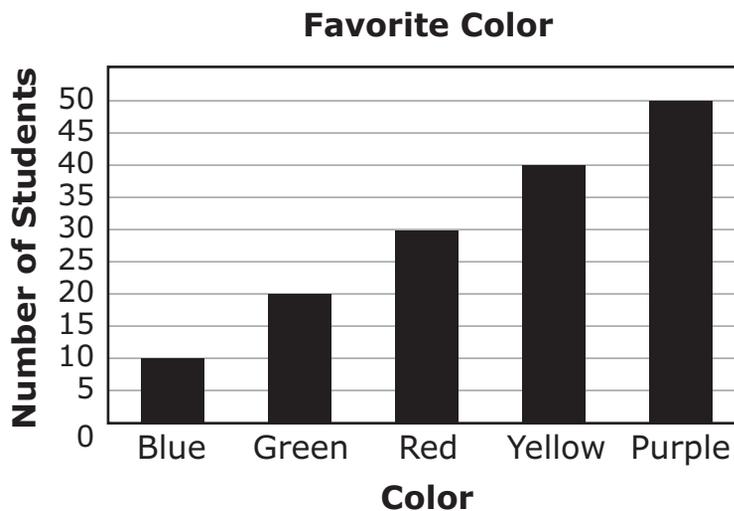
**B**  $-\frac{1}{9}$

**C**  $\frac{1}{9}$

**D** 9

## Section 1

- 6** There are 700 students at Park Middle School, and 150 students were surveyed. Each student surveyed was asked to select their preferred T-shirt color from a choice of five colors. The bar graph shows the results of the survey.



**Based on this data, how many of the total number of students can be expected to select red?**

- F** 140 students
- G** 180 students
- H** 210 students
- J** 233 students

**7** A sign above a sweater says "Take an additional 50% off." The price tag shows a price that is 40% off the regular price. What percent of the regular price is the discounted price (the price after both discounts)?

- A 20%
- B 30%
- C 60%
- D 90%

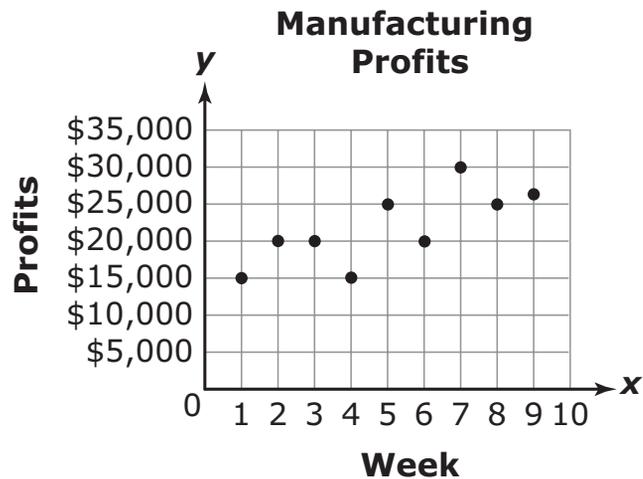
**8** A drink container is shaped like a cylinder. The height of the container is 10 centimeters, and the radius of the container is 6 centimeters. What is the approximate volume of the container?

$$V = \pi r^2 h$$

- F 283 cubic centimeters
- G 360 cubic centimeters
- H 452 cubic centimeters
- J 1,131 cubic centimeters

## Section 1

- 9 The graph below shows Jason Manufacturing's weekly profits over the last two months.



What is the best prediction for their profits in week 10?

- A \$20,000
  - B \$22,000
  - C \$30,000
  - D \$42,000
- 10 Which sentence could be written algebraically as  $n = 6n - 4$ ?
- F A number is 4 less than the product of the number and 6.
  - G A number is 4 minus the product of 6 and the number.
  - H Six times a number is 4 less than the number.
  - J Six times the difference of a number and 4 is equal to the number.

**11** What is the equation of the line with an  $x$ -intercept of 1 and a  $y$ -intercept of  $-6$ ?

- A  $y = x - 1$
- B  $y = x - 6$
- C  $y = 6x - 1$
- D  $y = 6x - 6$

**12** Donna charges a fixed fee plus an hourly rate to do yard work. The table below shows how much Donna charges for doing yard work.

**Yard Work Charges**

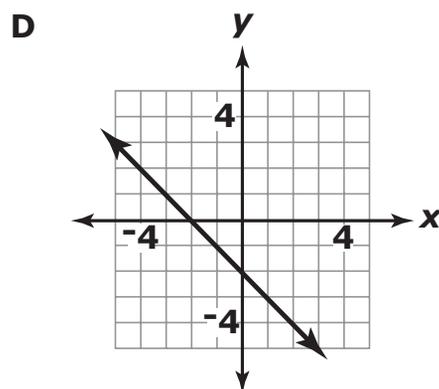
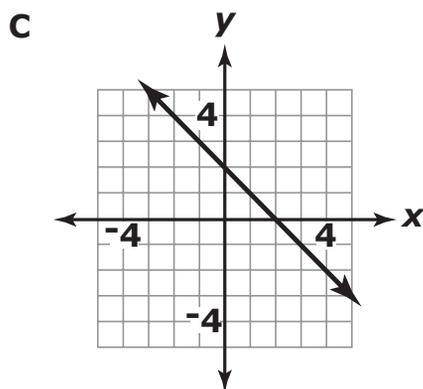
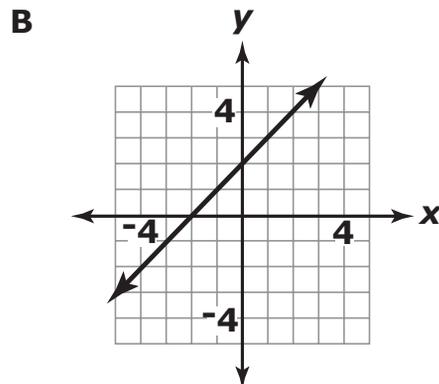
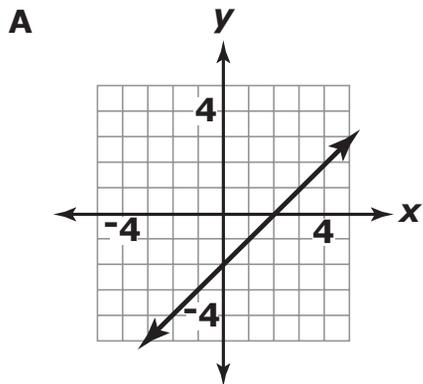
<b>Hours Worked</b>	1	2	3	4	5
<b>Amount Charged</b>	\$11	\$17	\$23	\$29	\$35

**What is Donna's hourly rate?**

- F \$5.50 per hour
- G \$6.00 per hour
- H \$8.50 per hour
- J \$11.00 per hour

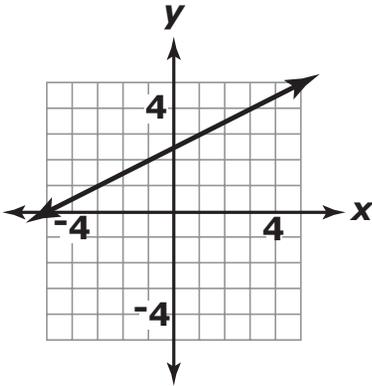
# Section 1

13 Which graph represents  $y = -x - 2$ ?

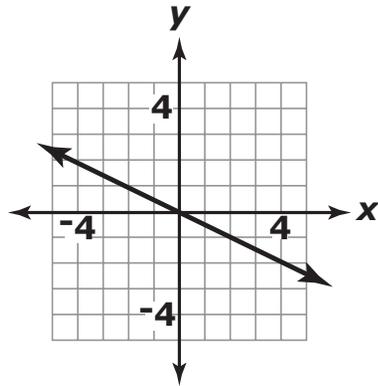


14 Which graph represents a line with a slope of  $-2$  that passes through the point  $(-1, 2)$  ?

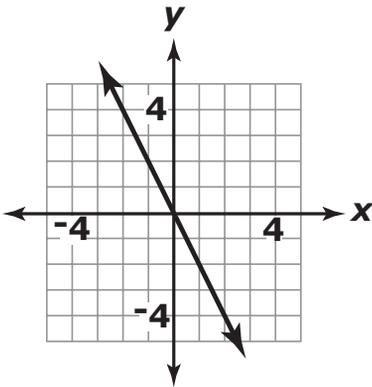
F



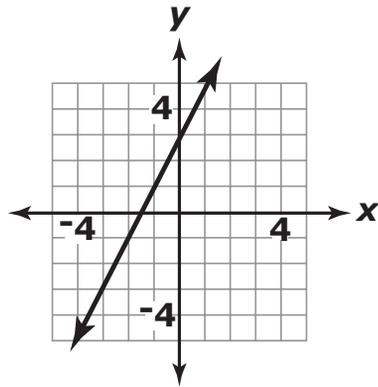
G



H



J



15

$$\begin{cases} x + y = 4 \\ 2x + 3y = -2 \end{cases}$$

What is the  $x$ -value of the solution to this system of equations?

- A 2
- B 6
- C 10
- D 14

# Answer Key

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ACE Algebra I				
Item Number	Correct Answer	Standard (pp. 4 and 5)	Objective	Skill
Sample A	D	2	2c	I
Sample B	F	2	2	a
1	C	1	2	b
2	G	2	2	b
3	B	2	1	c
4	H	2	1	a
5	A	2	2c	I
6	F	3	1	b
7	B	1	1	d
8	J	1	1	c
9	C	3	2	-
10	F	1	1	a
11	D	2	2	d
12	G	2	2c	III
13	D	2	2	e
14	H	2	2	d
15	D	2	4	-

# ACE Algebra I

**SAMPLES**

A (A) (B) (C) (●)

B (F) (G) (H) (J)

## Section 1

1 (A) (B) (C) (D)	11 (A) (B) (C) (D)	21 (A) (B) (C) (D)	31 (A) (B) (C) (D)
2 (F) (G) (H) (J)	12 (F) (G) (H) (J)	22 (F) (G) (H) (J)	32 (F) (G) (H) (J)
3 (A) (B) (C) (D)	13 (A) (B) (C) (D)	23 (A) (B) (C) (D)	33 (A) (B) (C) (D)
4 (F) (G) (H) (J)	14 (F) (G) (H) (J)	24 (F) (G) (H) (J)	34 (F) (G) (H) (J)
5 (A) (B) (C) (D)	15 (A) (B) (C) (D)	25 (A) (B) (C) (D)	35 (A) (B) (C) (D)
6 (F) (G) (H) (J)	16 (F) (G) (H) (J)	26 (F) (G) (H) (J)	36 (F) (G) (H) (J)
7 (A) (B) (C) (D)	17 (A) (B) (C) (D)	27 (A) (B) (C) (D)	37 (A) (B) (C) (D)
8 (F) (G) (H) (J)	18 (F) (G) (H) (J)	28 (F) (G) (H) (J)	38 (F) (G) (H) (J)
9 (A) (B) (C) (D)	19 (A) (B) (C) (D)	29 (A) (B) (C) (D)	
10 (F) (G) (H) (J)	20 (F) (G) (H) (J)	30 (F) (G) (H) (J)	

**STOP**

**Do not go on to Section 2  
until you are instructed to do so.**

## Section 2

39 (A) (B) (C) (D)	49 (A) (B) (C) (D)	59 (A) (B) (C) (D)	69 (A) (B) (C) (D)
40 (F) (G) (H) (J)	50 (F) (G) (H) (J)	60 (F) (G) (H) (J)	70 (F) (G) (H) (J)
41 (A) (B) (C) (D)	51 (A) (B) (C) (D)	61 (A) (B) (C) (D)	71 (A) (B) (C) (D)
42 (F) (G) (H) (J)	52 (F) (G) (H) (J)	62 (F) (G) (H) (J)	72 (F) (G) (H) (J)
43 (A) (B) (C) (D)	53 (A) (B) (C) (D)	63 (A) (B) (C) (D)	73 (A) (B) (C) (D)
44 (F) (G) (H) (J)	54 (F) (G) (H) (J)	64 (F) (G) (H) (J)	74 (F) (G) (H) (J)
45 (A) (B) (C) (D)	55 (A) (B) (C) (D)	65 (A) (B) (C) (D)	75 (A) (B) (C) (D)
46 (F) (G) (H) (J)	56 (F) (G) (H) (J)	66 (F) (G) (H) (J)	
47 (A) (B) (C) (D)	57 (A) (B) (C) (D)	67 (A) (B) (C) (D)	
48 (F) (G) (H) (J)	58 (F) (G) (H) (J)	68 (F) (G) (H) (J)	