

# Algebra I

2015 Released Test Questions

## TEST ADMINISTRATOR INSTRUCTIONS

### Question 1

Grade	EOC	Subject	Algebra I	Question	1
<b>Reporting Category 3</b>		Writing and Solving Linear Functions, Equations, and Inequalities: The student will demonstrate an understanding of how to write and solve linear functions, equations, and inequalities.			
<b>Knowledge and Skill Statement A.5</b>		The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions.			
<b>Essence Statement</b>		Solves linear equations, inequalities, and systems.			
<b>Prerequisite Skill (Old Curriculum)</b>		identify patterns in related addition and subtraction sentences (fact families for sums to 18) such as $2 + 3 = 5$ , $3 + 2 = 5$ , $5 - 2 = 3$ , and $5 - 3 = 2$ (1)			

### Question 2

Grade	EOC	Subject	Algebra I	Question	2
<b>Reporting Category 3</b>		Writing and Solving Linear Functions, Equations, and Inequalities: The student will demonstrate an understanding of how to write and solve linear functions, equations, and inequalities.			
<b>Knowledge and Skill Statement A.5</b>		The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions.			
<b>Essence Statement</b>		Solves linear equations, inequalities, and systems.			
<b>Prerequisite Skill (Old Curriculum)</b>		identify patterns in related multiplication and division sentences (fact families) such as $2 \times 3 = 6$ , $3 \times 2 = 6$ , $6 \div 2 = 3$ , $6 \div 3 = 2$ (3)			

### Question 3

Grade	EOC	Subject	Algebra I	Question	3
<b>Reporting Category 3</b>		Writing and Solving Linear Functions, Equations, and Inequalities: The student will demonstrate an understanding of how to write and solve linear functions, equations, and inequalities.			
<b>Knowledge and Skill Statement A.5</b>		The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions.			
<b>Essence Statement</b>		Solves linear equations, inequalities, and systems.			
<b>Prerequisite Skill (Old Curriculum)</b>		select from and use diagrams and equations such as $y = 5 + 3$ to represent meaningful problem situations (5)			

## Question 4


Grade	EOC	Subject	Algebra I	Question	4
<b>Reporting Category 3</b>		Writing and Solving Linear Functions, Equations, and Inequalities: The student will demonstrate an understanding of how to write and solve linear functions, equations, and inequalities.			
<b>Knowledge and Skill Statement A.5</b>		The student applies the mathematical process standards to solve, with and without technology, linear equations and evaluate the reasonableness of their solutions.			
<b>Essence Statement</b>		Solves linear equations, inequalities, and systems.			
<b>Prerequisite Skill (Old Curriculum)</b>		formulate equations from problem situations described by linear relationships (6)			

## Presentation Instructions for Question 1

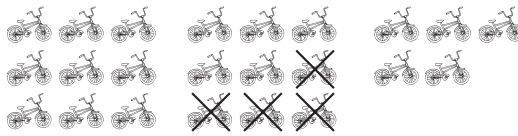
- Present Stimulus 1.
- Direct the student to the first equation. *Communicate*: **On Saturday, a bike shop built four bikes in the morning and five bikes in the afternoon for a total of nine bikes.**
- Direct the student to the second equation. *Communicate*: **On Sunday, the bike shop had nine bikes to sell. Four bikes were sold. Five bikes were left.**
- *Communicate*: **Find the equations that show what happened on Saturday and Sunday at the bike shop.**

### Stimulus 1

\*  $4 + 5 = 9$

Saturday 

$9 - 4 = 5$

Sunday 

### Scoring Instructions

Student Action		Test Administrator Action
If the student finds the equations,	➡	mark <b>A</b> for question 1 and move to question 2.
If the student does not find the equations,	➡	<ul style="list-style-type: none"> <li>• remove the stimulus;</li> <li>• wait at least five seconds; and</li> <li>• replicate the initial presentation instructions.</li> </ul>
After the five-second wait time, if the student finds the equations,	➡	mark <b>B</b> for question 1 and move to question 2.
After the five-second wait time, if the student does not find the equations,	➡	mark <b>C</b> for question 1 and move to question 2.

## Presentation Instructions for Question 2

- Present Stimulus 2a and 2b.
- Direct the student to Stimulus 2a. *Communicate*: **Seventy-seven newspapers were delivered to a school. A student delivered the newspapers to eleven classrooms. Each classroom received seven newspapers.**
- Direct the student to each answer choice in Stimulus 2b. *Communicate*: **At the end of the week, the eleven classrooms each recycled their seven newspapers. Seventy-seven newspapers were recycled.**
- *Communicate*: **Find the equation that shows the total number of newspapers that were recycled.**

### Stimulus 2a

$$77 \text{ newspapers} \div 11 \text{ classrooms} = 7 \text{ newspapers per classroom}$$

### Stimulus 2b

\*

$$11 \text{ classrooms} \times 7 \text{ newspapers per classroom} = 77 \text{ newspapers}$$

$$11 \text{ classrooms} \times 6 \text{ newspapers per classroom} = 66 \text{ newspapers}$$

## Scoring Instructions

Student Action		Test Administrator Action
If the student finds “ $11 \times 7 = 77$ ,”	➡	mark <b>A</b> for question 2 and move to question 3.
If the student does not find “ $11 \times 7 = 77$ ,”	➡	<ul style="list-style-type: none"> <li>model the desired student action by finding “<math>11 \times 7 = 77</math>” and <i>communicate</i> “<b>This is the equation that shows the total number of newspapers that were recycled and has the numbers 11, 7, and 77</b>”; and</li> <li>replicate the initial presentation instructions.</li> </ul>
After teacher modeling, if the student finds “ $11 \times 7 = 77$ ,”	➡	mark <b>B</b> for question 2 and move to question 3.
After teacher modeling, if the student does not find “ $11 \times 7 = 77$ ,”	➡	mark <b>C</b> for question 2 and move to question 3.

### Presentation Instructions for Question 3

- Present Stimulus 3a and 3b.
- Direct the student to the first equation. *Communicate*: **One day, a student stacked 75 boxes. He stacked 25 boxes per hour.**
- Direct the student to the second equation. *Communicate*: **The next day, the student stacked 60 boxes. He stacked 20 boxes per hour.**
- Direct the student to the empty boxes. *Communicate*: **The student worked the same number of hours each day. The number of hours he worked each day is missing.**
- Direct the student to each answer choice in Stimulus 3b. *Communicate* each answer choice.
- *Communicate*: **Find the number of hours the student worked each day.**

#### Stimulus 3a

$$75 \text{ boxes} \div \boxed{\phantom{000}} = 25 \text{ boxes per hour}$$

$$60 \text{ boxes} \div \boxed{\phantom{000}} = 20 \text{ boxes per hour}$$

#### Stimulus 3b

30 hours

5 hours

\* 3 hours

### Scoring Instructions

Student Action		Test Administrator Action
If the student finds "3 hours,"	➡	mark <b>A</b> for question 3 and move to question 4.
If the student does not find "3 hours,"	➡	provide <b>one</b> of these allowable teacher assists to the student: <ul style="list-style-type: none"> <li>• Have the student try each answer choice in the equation. <b>OR</b></li> <li>• Allow the student to use a calculator.</li> </ul> Replicate the initial presentation instructions.
After the selected teacher assistance, if the student finds "3 hours,"	➡	mark <b>B</b> for question 3 and move to question 4.
After the selected teacher assistance, if the student does not find "3 hours,"	➡	mark <b>C</b> for question 3 and move to question 4.

## Presentation Instructions for Question 4

- Present Stimulus 4a and 4b.
- Direct the student to Stimulus 4a. Communicate: **A student buys 5 boxes of cereal. Each box costs \$3.00. She has a coupon for \$2.00 off the total amount.**
- Direct the student to each answer choice in Stimulus 4b. Communicate each answer choice.
- Communicate: **Find the pair of equations that can be used to find how much money the student spends.**

### Stimulus 4a



### Stimulus 4b

$$5 \times \$3.00 = \square$$
$$\square + \$2.00 = \$17.00$$

\*

$$5 \times \$3.00 = \square$$
$$\square - \$2.00 = \$13.00$$

$$5 - \$3.00 = \square$$
$$\square \times \$2.00 = \$4.00$$

## Scoring Instructions

Student Action		Test Administrator Action
If the student finds " $5 \times \$3.00 = \square$ and $\square - \$2.00 = \$13.00$ ,"	➡	mark <b>A</b> for question 4.
If the student does not find " $5 \times \$3.00 = \square$ and $\square - \$2.00 = \$13.00$ ,"	➡	replicate the initial presentation instructions.
After the teacher repeats the instructions, if the student finds " $5 \times \$3.00 = \square$ and $\square - \$2.00 = \$13.00$ ,"	➡	mark <b>B</b> for question 4.
After the teacher repeats the instructions, if the student does not find " $5 \times \$3.00 = \square$ and $\square - \$2.00 = \$13.00$ ,"	➡	mark <b>C</b> for question 4.