

Just In Time Quick Check
Standard of Learning (SOL) 7.10c

Strand: Patterns, Functions, and Algebra

Standard of Learning (SOL) 7.10c

The student will determine the y -intercept, b , in an additive relationship between two quantities and write an equation in the form $y = x + b$ to represent the relationship.

Grade Level Skills:

- Determine the y -intercept, b , in an additive relationship between two quantities given a table of values or a verbal description, including those represented in a practical situation, and write an equation in the form $y = x + b$, $b \neq 0$, to represent the relationship.

[Just in Time Quick Check](#)

[Just in Time Quick Check Teacher Notes](#)

Supporting Resources:

- VDOE Mathematics Instructional Plans (MIPS)
 - [7.10cd - Discover \$y\$ -intercept \(\$b\$ \)](#) (Word) / [PDF Version](#)
- VDOE Algebra Readiness Formative Assessments
 - [SOL 7.10c](#) (Word) / [PDF](#)
- VDOE Algebra Readiness Remediation Plans
 - [Y-Intercept and Additive Relationships](#) (Word) / [PDF](#)
- VDOE Word Wall Cards: Grade 7 ([Word](#)) | ([PDF](#))
 - Additive Relationship: $y = x + b$
 - Additive Relationship
- Desmos Activity
 - [SOL 7.10cd Y-Intercept Investigation](#)

Supporting and Prerequisite SOL: [6.8b](#)

SOL 7.10c - Just in Time Quick Check

1. The table of values represents a relationship between x and y .

x	y
0	3
2	5
3	6

a. Determine the y -intercept of the line that passes through the points represented by the values in this table.

b. Write an equation of the line that contains each point represented by this table of values.

2. A movie theater is offering a coupon for \$3 off each regular ticket price.

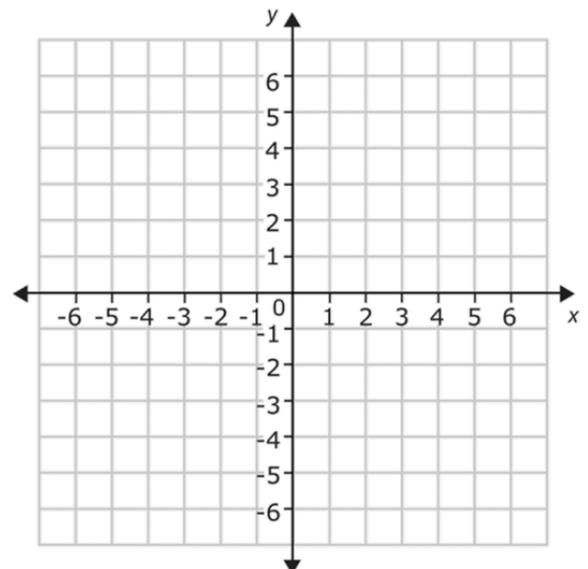
- Let x represent the regular ticket price.
- Let y represent the discounted ticket price.

Write an equation that represents the relationship between the regular ticket price, x , and the discounted ticket price, y .

3. The table of values represents a relationship between x and y .

x	y
5	4
1	0
-2	-3

a. Determine the y -intercept of the line that passes through the points represented by the values in this table.



b. Write an equation of the line representing this relationship between x and y .

SOL 7.10c - Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

1. The table of values represents a relationship between x and y .

x	y
0	3
2	5
3	6

- a. Determine the y -intercept of the line that passes through the points represented by the values in this table.

A common misconception is listing zero for the y -intercept. This would indicate that the student is using the x -coordinate for the y -intercept value. Another common error would be to use the change in y -values of the first two ordered pairs in the table to represent the y -intercept resulting in a y -intercept of two. This error indicates the student is confusing how to determine the slope and the y -intercept from a table. A student may benefit from additional practice determining the y -intercept from a table. Refer to the VDOE Algebra Readiness Remediation Plans: Y -Intercept and Additive Relationships.

- b. Write an equation of the line that contains each point represented by this table of values.

A common error that a student may make is to use the change in y -values as the y -intercept and writing an equation of $y = x + 2$. This indicates that a student is confusing the y -intercept with the change in y -values of the first two ordered pairs. A student may benefit from practice writing the equation of additive relationships in the VDOE Algebra Readiness Remediation Plan: Y -Intercept and Additive Relationships.

2. A movie theater is offering a coupon for \$3 off each regular ticket price.
- Let x represent the regular ticket price.
 - Let y represent the discounted ticket price.

Write an equation that represents the relationship between the regular ticket price, x , and the discounted ticket price, y .

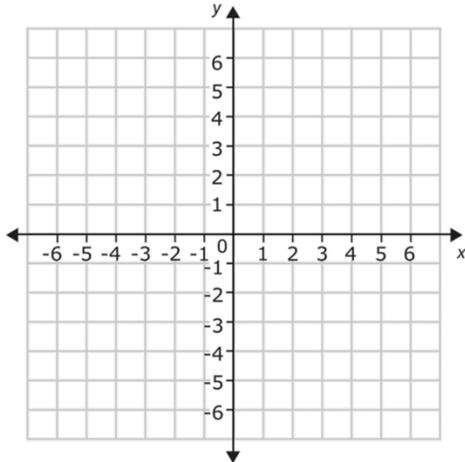
A common error would be to misinterpret the meaning of the coupon and write the equation as $y = x + 3$. A student may not understand that a coupon reduces the amount paid. Students may not know how to write the equation for an additive relationship with a negative number and may not understand the difference between $x + (-3)$ and $x + 3$ or $x - 3$. A student may benefit from additional practice with integers. Reference the Journal/Writing Prompts section of the [7.10cd Math Instructional Plan](#).

3. The table of values represents a relationship between x and y .

- a. Determine the y -intercept of the line that passes through the points represented by the values in this table.

x	y
5	4
1	0
-2	-3

A common error is a student may identify the y -intercept value as 1. This indicates that a student used the x -intercept value instead of the y -intercept value. A possible strategy would be to graphically represent the points in the table to determine the y -intercept.



- b. Write an equation of the line representing this relationship between x and y .

A student may incorrectly write the equation, $y = x + 1$. This indicates a student may not be distinguishing between x - and y -values. A student may benefit additional practice graphing points from a table, writing an equation, and using the values in the table to verify their equations. Refer to VDOE Mathematics Instructional Plans: 7.10cd - Discover y -intercept (b) for additional practice.