

12th Grade

Days 1-6

Twelfth Grade

On the first district declared AMI day (Alternative Methods of Instruction), students may begin Day 1 of the assignments. Students should complete each bulleted activity in Day 1. On each additional district declared AMI day, students will progress through each day in order and follow the same process by completing all of the bulleted activities for that day. To receive a grade for the work, students must return completed AMI assignments with parent signatures to their teacher within 5 school days of school being back in session.

Day 1

- ELA and Social Studies- Create your login for CommonLit at www.commonlit.org. Please see the attached instruction page for registering. Complete one of your assigned activities.
- Math-Complete Lesson 1 Exit Ticket
- Science- Teacher-assigned

Day 2

- ELA and Social Studies- Complete one of your assigned CommonLit activities.
- Math-Complete Lesson 2 Exit Ticket
- Science- Teacher-assigned

Day 3

- ELA and Social Studies- Complete one of your assigned CommonLit activities.
- Math-Complete Lesson 3 Exit Ticket
- Science-Teacher-assigned

Day 4

- ELA and Social Studies- Complete one of your assigned CommonLit activities.
- Math-Complete Lesson 4 Exit Ticket
- Science- Teacher-assigned

Day 5

- ELA and Social Studies- Complete one of your assigned CommonLit activities.
- Math-Complete Lesson 5 Exit Ticket
- Science- Teacher-assigned

Day 6

- ELA and Social Studies- Complete one of your assigned CommonLit activities.
- Math - Complete Lesson 6 Problem Set
- Science - Teacher-assigned



How to Set Up Your CommonLit Student Account

At CommonLit.org, you will read articles and other reading passages your teacher has assigned you, answer reading comprehension questions, complete written responses, and receive feedback. Let's get started!

Create Your Account:

1. Open an internet browser. In the URL field, type in www.commonlit.org/code
You should see this:

ENTER CLASS CODE

SUBMIT

I don't have class codeExisting User? [Log In](#)

2. In the field above, type in the **class code** provided by your teacher (see below), then click the "Submit" button.

Class Name: _____

Code: _____

3. Enter your information on the "Set Up Your Account" page. Make sure to write down your username and, if you're worried you'll forget, the password you created. You will need these to log in to your account next time. When you're finished filling in the form, click the "Set Up Your Account" button.

My Username: _____

My Password: _____

4. Congratulations, you've created your CommonLit account! Now that you're logged in, you can view and begin completing assignments from your "My Assignments" page.

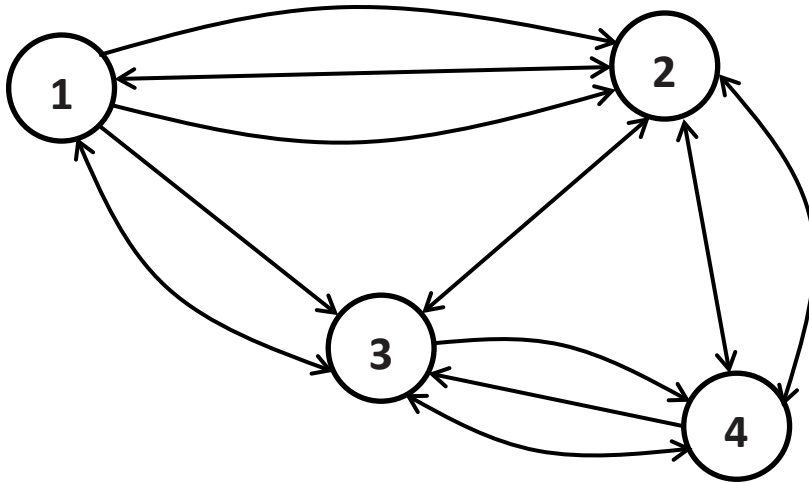
Name _____

Date _____

Lesson 1: Introduction to Networks

Exit Ticket

The following directed graph shows the major roads that connect four cities.



1. Create a matrix C that shows the direct routes connecting the four cities.

2. Use the matrix to determine how many ways are there to travel from City 1 to City 4 with one stop in City 2.

3. What is the meaning of $c_{2,3}$?
4. Write an expression that represents the total number of ways to travel between City 2 and City 3 without passing through the same city twice. (You can travel through another city on the way from City 2 to City 3.)

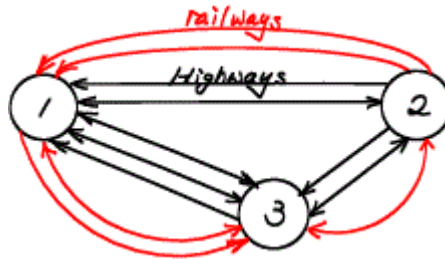
Name _____

Date _____

Lesson 2: Networks and Matrix Arithmetic

Exit Ticket

The diagram below represents a network of highways and railways between three cities. Highways are represented by black lines, and railways are represented by red lines.



- Create matrix A that represents the number of major highways connecting the three cities and matrix B that represents the number of railways connecting the three cities.
 - $A + B$
 - $3B$
- Calculate and interpret the meaning of each matrix in this situation.
 - $A + B$
 - $3B$
- Find $A - B$. Does the matrix $A - B$ have any meaning in this situation? Explain your reasoning.

Name _____

Date _____

Lesson 3: Matrix Arithmetic in Its Own Right

Exit Ticket

Matrix A represents the number of major highways connecting three cities. Matrix B represents the number of railways connecting the same three cities.

$$A = \begin{bmatrix} 0 & 3 & 0 \\ 2 & 0 & 2 \\ 1 & 1 & 2 \end{bmatrix} \text{ and } B = \begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$$

Draw a network diagram for the transportation network of highways and railways between these cities. Use solid lines for highways and dotted lines for railways.



1. Calculate and interpret the meaning of each matrix in this situation.

a. $A \cdot B$

b. $B \cdot A$

2. In this situation, why does it make sense that $A \cdot B \neq B \cdot A$?

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Lesson 4: Linear Transformations Review

Exit Ticket

- In Module 1, we learned about linear transformations for any real number functions. What are the conditions of a linear transformation? If a real number function is a linear transformation, what is its form? What are the two characteristics of the function?
- Describe the geometric effect of each mapping:
 - $L(x) = 3x$
 - $L(z) = (\sqrt{2} + \sqrt{2}i) \cdot z$
 - $L(z) = \begin{pmatrix} 0 & -1 \\ 1 & 0 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix}$, where z is a complex number
 - $L(z) = \begin{pmatrix} 2 & 0 \\ 0 & 2 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix}$, where z is a complex number

Name _____

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Lesson 5: Coordinates of Points in Space

Exit Ticket

1. Find the sum of the following, and plot the points and the resultant. Describe the geometric interpretation.

a. $\begin{pmatrix} 3 \\ 1 \end{pmatrix} + \begin{pmatrix} 1 \\ 3 \end{pmatrix}$

b. $\begin{pmatrix} 2 \\ 0 \end{pmatrix} + \begin{pmatrix} 3 \\ 2 \end{pmatrix}$

c. $\begin{pmatrix} -2 \\ 4 \end{pmatrix} + \begin{pmatrix} 3 \\ -2 \end{pmatrix}$

d. $-\begin{pmatrix} 3 \\ 1 \end{pmatrix}$

2. Find the sum of the following.

a. $\begin{pmatrix} 3 \\ 1 \\ 3 \end{pmatrix} + \begin{pmatrix} 1 \\ 3 \\ 1 \end{pmatrix}$

b. $\begin{pmatrix} 2 \\ 0 \\ 1 \end{pmatrix} + \begin{pmatrix} 0 \\ 2 \\ 1 \end{pmatrix}$