

## 7th Grade, Week 3/30-4/3

**These assignments are due back at school 4/14 (after Spring Break)**

### **Monday:**

Math- Lesson 9.1 pg 384 Notes: Vocab, also add in notes "domain cannot repeat in a function. Range can repeat." Be sure you understand the vocab! Assignment: pg 387 2-26 evens (be sure to use the videos through connected and Khanacademy.org)

**Tuesday:** Virtual meeting at 10:00 am. Check your google calendar for the link.

Math- Lesson 9.2 pg 390 Notes: Vocab, Be sure you understand the vocab. Assignment pg 393 1-12 (be sure to use the videos through connected and Khanacademy.org)

Science- Lesson 11.3 Read pgs 443-449, Notes: Vocab, Assignment: 11.3 Mastery and Reinforcement Worksheet

History- Read pg 496 Elizabeth I. Analyze portrait using the handout The Art of Looking.

### **Wednesday:**

Math- Lesson 9.3 pg 396 Notes: Vocab and key concept boxes pg 397 and 398. Assignment: pg 399-400 1-22

\*\* Elective- if you have yearbook and have items to work on please feel free to work on it.

**Thursday:** Virtual meeting at 10:00 am. Check your google calendar for the link. Bring all your questions.

Math- Lesson 9.4 pg 405 Notes: Vocab and key concept box 405. Assignment: pg 408 1-7 (be sure to use the videos through connected and Khanacademy.org)

Science- Create your own pinhole camera. Use resources on the internet to get directions on how to create a pinhole camera, I have attached an example but be creative with the materials you have.

History- Lesson 10.2 Read pgs 493-499 Notes: content vocab and main ideas Assignment: pg 499 1-4

### **Friday:**

Math- Identifying and Representing Functions Homework Worksheet



**Reinforcement** Using Lenses

**Directions:** Write the name of each optical instrument—telescope, microscope, or camera—that matches each description below. If a description matches more than one instrument, be sure to list each instrument that fits the description.

1. has two lenses called the eyepiece lens and objective lens

\_\_\_\_\_

2. allows a person to see faraway objects more clearly

\_\_\_\_\_

3. can be made with a mirror instead of a lens in order to collect more light

\_\_\_\_\_

4. moves a lens to focus an image sharply on a piece of film or a digital sensor

\_\_\_\_\_

5. collects more light than a human eye can to create a useful image

\_\_\_\_\_

6. uses a combination of lenses and a tube to enlarge objects

\_\_\_\_\_

7. allows a person to see small objects more clearly

\_\_\_\_\_

**Directions:** Complete each sentence below with a term from the lesson.

8. A(n) \_\_\_\_\_ is a curved, transparent object used to refract light.

9. The distance between the center of a lens and its focal point is the \_\_\_\_\_ of the lens.

10. A(n) \_\_\_\_\_ lens always forms an image that is on the same side of the lens as the original object and right-side up.

11. A convex lens has at least one side that \_\_\_\_\_.

12. Light travels more \_\_\_\_\_ in a lens than it does in air.

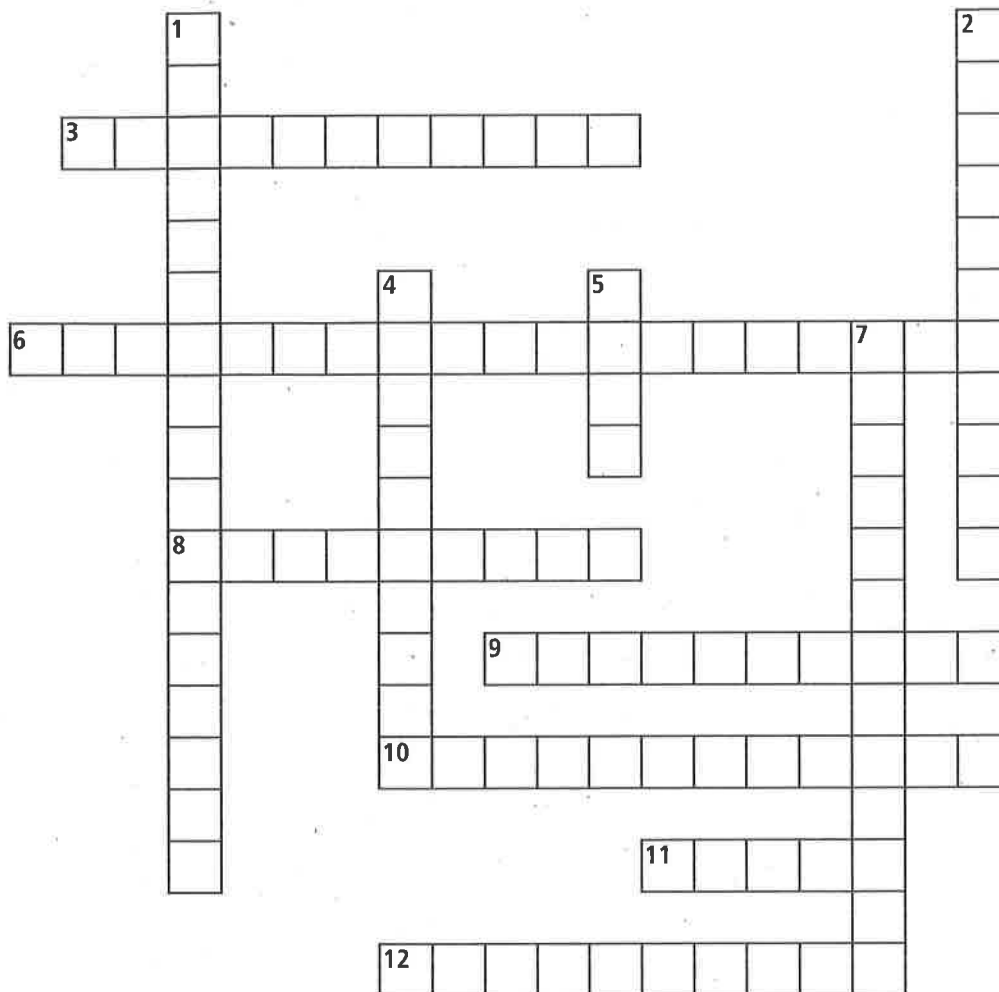
13. \_\_\_\_\_ telescopes are sometimes used to see distant or faint objects because it is easier to make and support large mirrors than it is to make and support large lenses.

# Chapter Content Mastery

## Using Lenses

### CHAPTER 11 LESSON 3

**Directions:** Use the clues below to complete the crossword puzzle.



#### Across

3. in a lens, an imaginary line that would pass through the center of the lens, perpendicular to its curved surface(s)
6. a telescope that uses a mirror to collect light emitted by distant or faint objects
8. an optical instrument that makes objects that are far away look closer
9. the point where all of the beams of light leaving a lens converge
10. the smaller lens in a refracting telescope, located nearer to the viewer's eye
11. the likeness of something produced by an optical device such as a lens
12. a lens that bulges outward

#### Down

1. a tool that uses lenses to focus light and create useful images
2. the distance from the center of a lens to its focal point
4. an optical instrument that uses two convex lenses to allow you to see very small objects
5. a curved, transparent object used to refract light
7. the large lens at the end of a refracting telescope, located farther from the viewer's eye

## The Art of Looking: Portraiture

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This process encourages thoughtful, close looking that strengthens students' ability to explore portraits and build interpretations by finding evidence in the artwork. Practice this process with a visual portrait then apply it to an analysis of a literary, biographical, or autobiographical portrait in a class text.

**LOOK**—Take a close look at all parts of the portrait.

—What figures, settings, and objects do you see?

**OBSERVE**—Describe the subject.

—Gender and approximate age

—Clothing

—Pose (standing, sitting upright, relaxed, sprawled out, lying down, active)

—Does the subject appear to be looking at the viewer or at something else? If something else, at what is the subject looking?

—How does the subject's gaze make you feel about the subject?

—Describe the subject's expression.

—Full-length, half-length, 3/4 length or bust?

—What colors stand out in the painting?

**ANALYZE**—What conclusions can be drawn about the subject?

—Is this a formal or a relaxed portrait? What evidence can you find to support this?

(clothes, pose, expression, setting)

—Describe the setting or background. Is the background a backdrop (as in a modern-day photographer's studio or most school photos) or a specific place?

—What objects are included in the painting? Why do you think they were included? What do the objects lead you to think about?

**INTERPRET**—What do you believe this portrait is meant to tell you about the subject?

—What do you think this portrait was supposed to make you believe or feel about the subject?

—Do you think you would like/admire the person if you could meet?

—If you could ask the subject a few questions, what would they be?

—If the subject could talk to you, what would he or she say?

**LOOK**

**OBSERVE**

**ANALYZE**

**INTERPRET**

# Pinhole Camera

Make a "camera," and learn how a real one works!

Pinhole cameras were one of the earliest types of cameras. They use the principle of "camera obscura," in which light travels through a small hole in a dark box to form a picture. It's the same science that today's cameras use. Follow these instructions to make a pinhole "camera" and learn how real cameras work.

## YOU WILL NEED

- Sharp pencil
- Empty shoe box with a lid
- X-Acto knife (Ask an adult for help with this item!)
- Scissors
- Ruler
- Wax paper
- Tape
- Blanket

## **STEP ONE**

Use the point of a sharp pencil to punch a hole in one of the shorter ends of the shoe box.

## **STEP TWO**

Ask an adult to use an X-Acto knife to cut a square in the opposite end of the box, directly across from the hole. The square should measure 2 inches on each side.

## **STEP THREE**

Use scissors to cut a square of wax paper that measures 3 inches (7.62 centimeters) on each side.

## **STEP FOUR**

Place the wax paper directly over the square you cut in the box. Tape the edges of the wax paper to the box.



## **STEP FIVE**

Take the camera box to a dimly lit room and turn on a lamp. Stand about 5 feet from the lamp.

## **STEP SIX**

Cover your head and pinhole camera with a blanket. Be sure that the end with the wax paper is facing you and the end with the pinhole is facing the lamp.

## **STEP SEVEN**

Hold your pinhole camera at arms length from your face and aim it at the lamp. Keep it steady until you see an upside-down image of the lamp.

### **WHAT'S HAPPENING?**

In a real camera, the lens is like the tiny hole you made in the box and creates a backward, upside-down image. Like the little hole, the lens lets in light. The wax paper is like film in a real camera, which has special chemicals on it. When the light hits the film, the chemicals start changing and turn the image into a photograph.

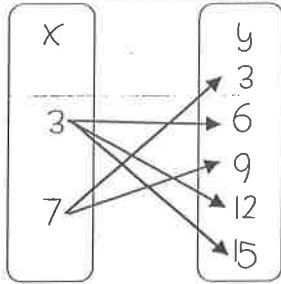


# Identifying & Representing Functions Homework

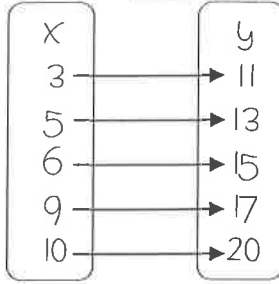
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Tell whether each relationship is a function:

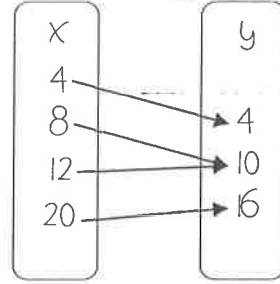
1) Function? \_\_\_\_\_



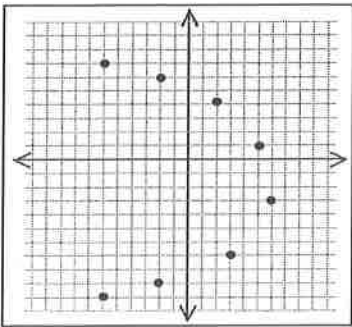
2) Function? \_\_\_\_\_



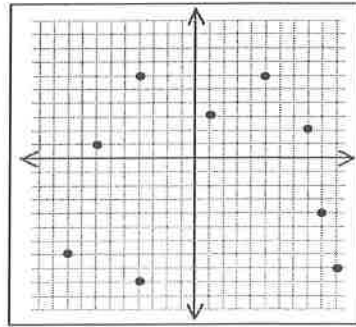
3) Function? \_\_\_\_\_



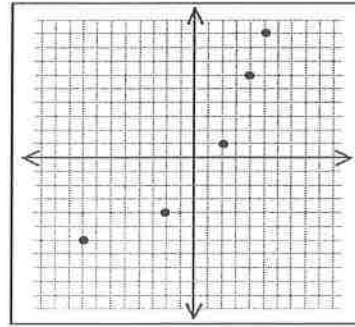
4) Function? \_\_\_\_\_



5) Function? \_\_\_\_\_



6) Function? \_\_\_\_\_



7) Function? \_\_\_\_\_

X	-1	0	1	2
y	5	2	0	2

8) Function? \_\_\_\_\_

X	1	2	3	3
y	4	5	6	9

9) Function? \_\_\_\_\_

X	0	1	2	3
y	5	5	5	5

10) Function? \_\_\_\_\_

$\{(4,5) (6,8) (7,9) (8,8)\}$

11) Function? \_\_\_\_\_

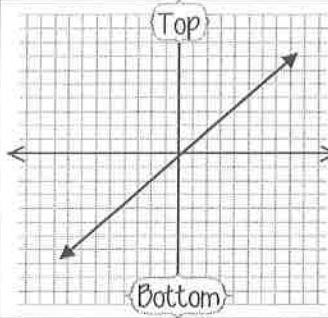
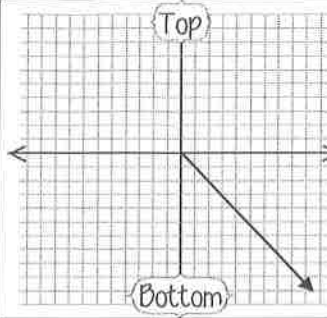
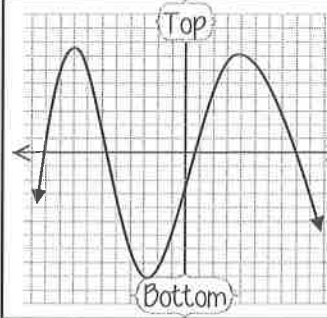
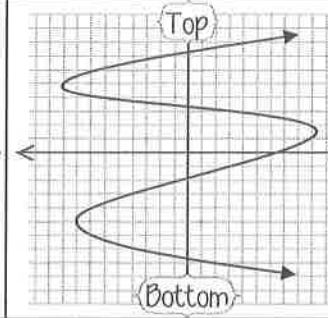
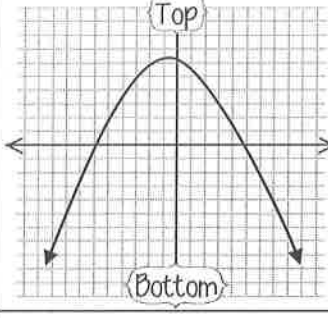
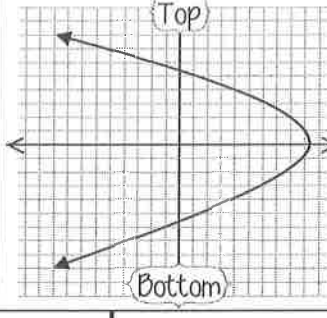
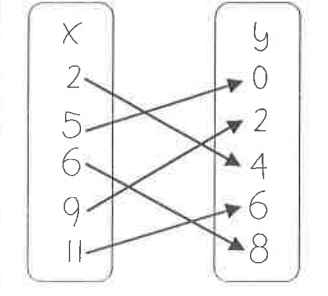
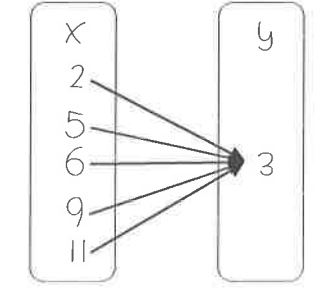
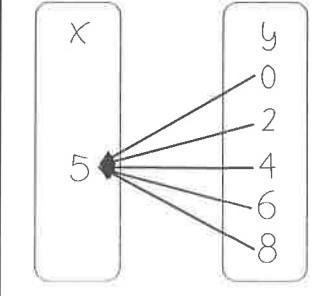
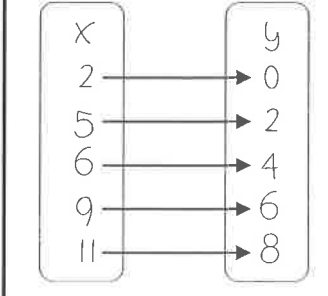
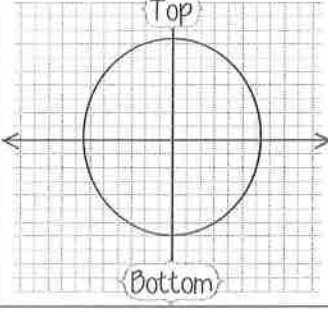
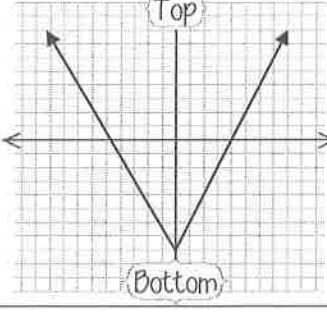
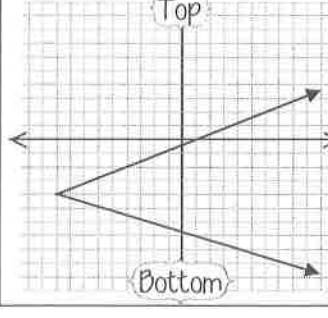
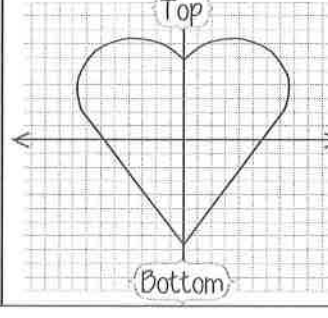
$\{(-2,5) (-1,0) (0,-5)\}$

12) Function? \_\_\_\_\_

$\{(1,1) (2,4) (2,3) (1,0)\}$

Function

Not a Function

																																	
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Cut out the graphs and sort them into "Function" or "Not a Function".  
 To ensure you don't run out of room do not start gluing until you have finished sorting all the cards.

