

# Review

## Chapter 7

### Expressions and Patterns

## Vocabulary Check

Vocab

Use context clues to write a description for each boldfaced vocabulary word.

1. The **numerical expression**  $5 + 12$  represents the sum of 5 and 12.

\_\_\_\_\_

2. Keira was asked why the **ordered pair** is important when plotting points on a graph.

\_\_\_\_\_

3. Luis was given the expression  $10 - (2 \times 6)$  to evaluate and asked to identify the **order of operations**.

\_\_\_\_\_

4. The **coordinate plane** can be used to name ordered pairs.

\_\_\_\_\_

5. Majorie was asked to name the **x-coordinate** on the coordinate plane for point A.

\_\_\_\_\_

# Concept Check



Evaluate each expression.

6.  $(2 \times 2^2) \times (4 + 7) =$  \_\_\_\_\_

7.  $10 \times [(7^2 + 3) - 9] =$  \_\_\_\_\_

8.  $(21 \div 3) + (17 - 7) =$  \_\_\_\_\_

9.  $[(66 \div 11) + 3] \times 2 =$  \_\_\_\_\_

10.  $6 \times [5 \times (3^3 - 17)] =$  \_\_\_\_\_

11.  $\{[(18 - 3) + 3^2] - 14\} \times 3 =$  \_\_\_\_\_

Write each phrase as a numerical expression.

12. divide 18 by 3, then add 9 \_\_\_\_\_

13. subtract 5 from 13 then add the product of 3 and 7 \_\_\_\_\_

14. Compare the pair of numerical expressions without evaluating them.

**Expression 1**

$$12 \times 2$$

**Expression 2**

$$(12 \times 2) \times 2$$

Both expressions contain the same multiplication expression.

Write the expression. \_\_\_\_\_

In Expression 2, the product is multiplied by \_\_\_\_\_.

So, Expression 2 is \_\_\_\_\_ times as large as Expression 1.

Locate and name each ordered pair.

15. A \_\_\_\_\_

16. B \_\_\_\_\_

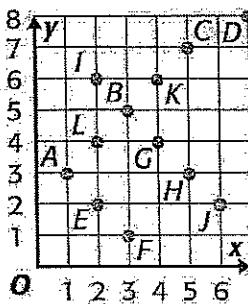
17. C \_\_\_\_\_

Locate and name each point.

18. (5, 3) \_\_\_\_\_

19. (4, 6) \_\_\_\_\_

20. (4, 4) \_\_\_\_\_



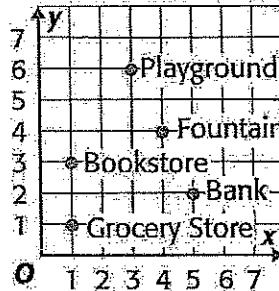


## Problem Solving

- 21.** A store display will have 6 rows, with 12 containers in each row. If 39 containers has been set up so far, explain how to find the number of containers that still need to be set up. Then solve the problem.
- 22.** Fashion for All has jeans on sale for \$13. Designer Pants has jeans on sale for \$26. Write the total costs of 1, 2, 3, and 4 pairs of jeans for each store. Then compare the total cost of 4 pairs of jeans.
- 23.** Glenn swam 2 laps every morning for 7 days. In addition to the laps he swam each morning, he swam 3 laps with his friends on Tuesday and Thursday. Write the expression that shows the number of laps he swam during the week. Evaluate the expression to find the total number of laps he swam that week.

**Use the graph for Exercises 24 and 25.**

- 24.** What is located at  $(3, 6)$ ?
- 25.** Write the ordered pair for the bookstore.



## Test Practice

- 26.** Refer to the graph for Exercises 24 and 25. If the y-coordinate of the grocery store was moved up 4 units, what would be the ordered pair of the grocery store?

- (A)  $(1, 5)$       (C)  $(1, 7)$   
 (B)  $(5, 1)$       (D)  $(5, 5)$



Name \_\_\_\_\_

Date \_\_\_\_\_

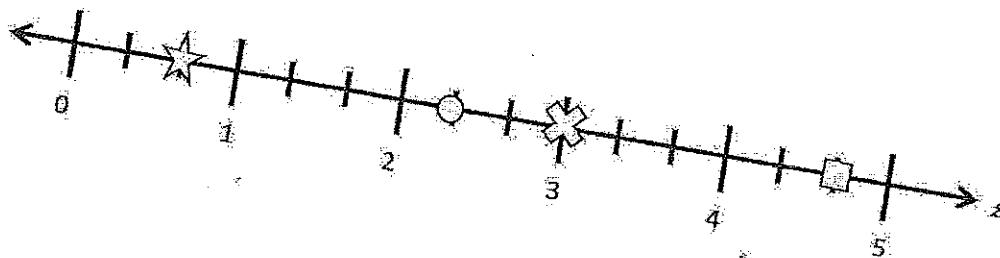
1. Each shape was placed at a point on the number line  $s$ . Give the coordinate of each point below.

a. \_\_\_\_\_

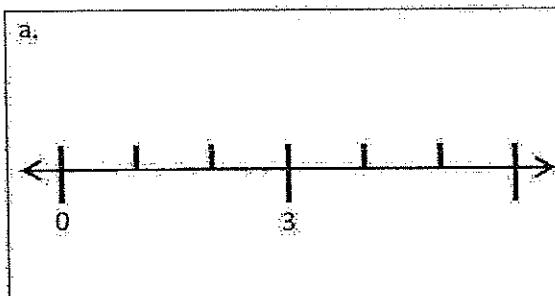
b. \_\_\_\_\_

c. \_\_\_\_\_

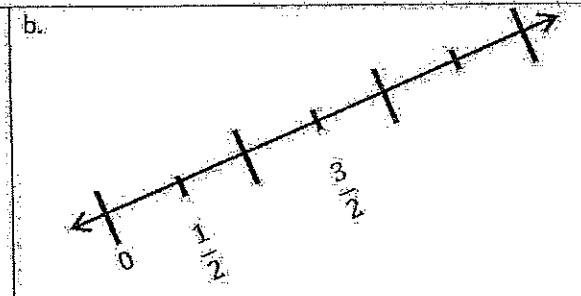
d. \_\_\_\_\_



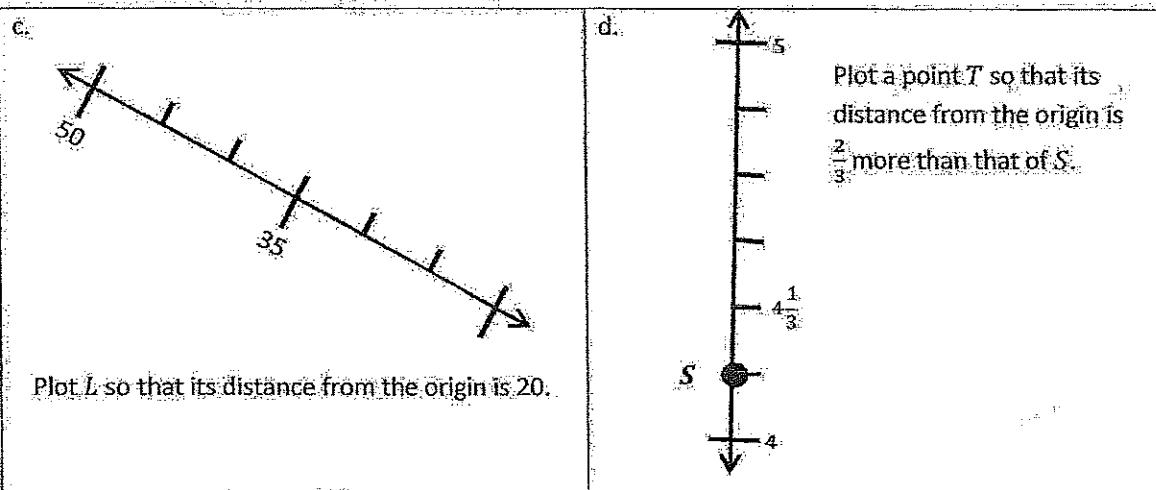
2. Plot the points on the number lines.



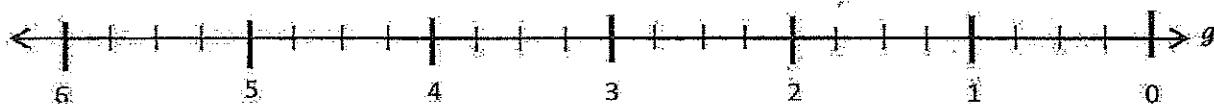
Plot  $A$  so that its distance from the origin is 2.



Plot  $R$  so that its distance from the origin is  $\frac{5}{2}$ .



3. Number line  $g$  is labeled from 0 to 6. Use number line  $g$  below to answer the questions.



- a. Plot point  $A$  at  $\frac{3}{4}$ .
- b. Label a point that lies at  $4\frac{1}{2}$  as  $B$ .
- c. Label a point,  $C$ , whose distance from zero is 5 more than that of  $A$ .  
The coordinate of  $C$  is \_\_\_\_\_.
- d. Plot a point,  $D$ , whose distance from zero is  $1\frac{1}{4}$  less than that of  $B$ .  
The coordinate of  $D$  is \_\_\_\_\_.
- e. The distance of  $E$  from zero is  $1\frac{3}{4}$  more than that of  $D$ . Plot point  $E$ .
- f. What is the coordinate of the point that lies halfway between  $A$  and  $D$ ? \_\_\_\_\_.  
Label this point  $F$ .



4. Mrs. Fan asked her fifth-grade class to create a number line. Lenox created the number line below.



Parks said Lenox's number line is wrong because numbers should always increase from left to right. Who is correct? Explain your thinking.

5. A pirate marked the palm tree on his treasure map and buried his treasure 30 feet away. Do you think he will be able to easily find his treasure when he returns? Why or why not? What might he do to make it easier to find?



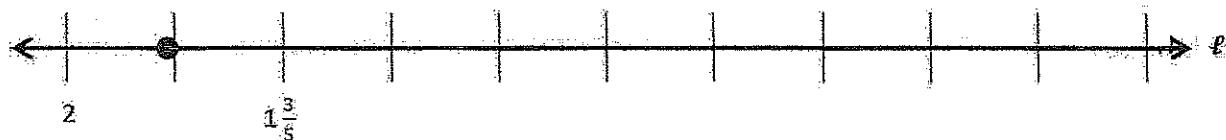


Name: \_\_\_\_\_

Date: \_\_\_\_\_

Use number line  $\ell$  to answer the questions.

D:



- Plot point  $C$  so that its distance from the origin is 1.
- Plot point  $E$   $\frac{4}{5}$  closer to the origin than  $C$ . What is its coordinate? \_\_\_\_\_
- Plot a point at the midpoint of  $C$  and  $E$ . Label it  $H$ .

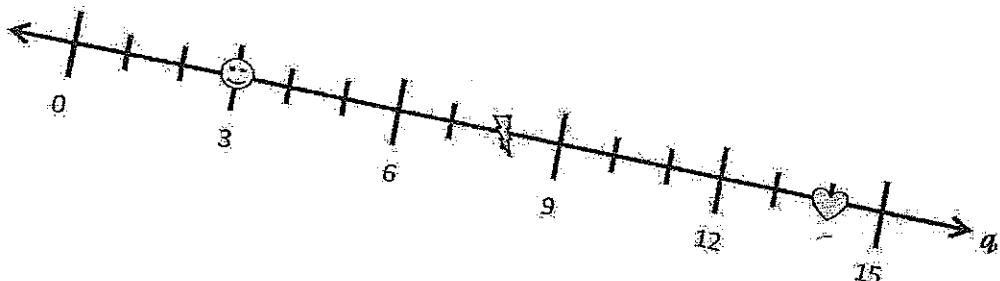


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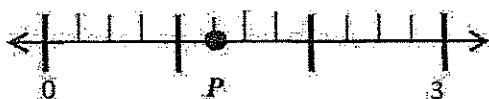
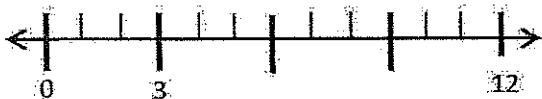
Date \_\_\_\_\_

1. Answer the following questions using number line  $a$  below:

- What is the coordinate, or the distance from the origin, of the 😊? \_\_\_\_\_
- What is the coordinate of the ✎? \_\_\_\_\_
- What is the coordinate of the ❤️? \_\_\_\_\_
- What is the coordinate at the midpoint of the ✎ and the ❤️? \_\_\_\_\_

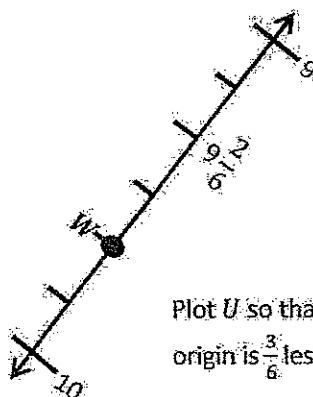
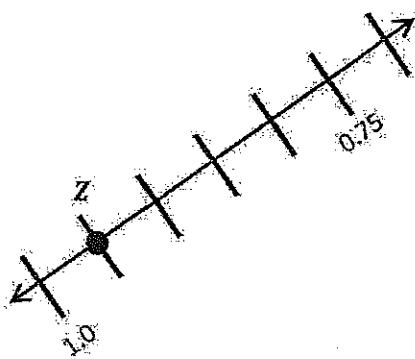


2. Use the number lines to answer the questions.



Plot  $T$  so that its distance from the origin is 10.

Plot  $M$  so that its distance is  $\frac{11}{4}$  from the origin. What is the distance from  $P$  to  $M$ ?

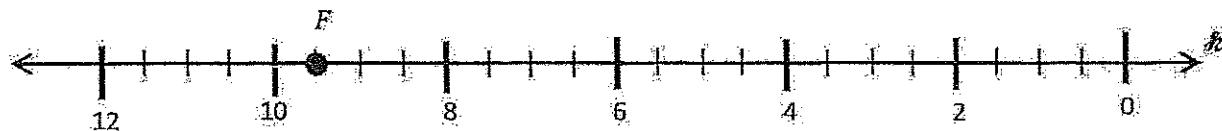


Plot a point that is 0.15 closer to the origin than  $Z$ .

Plot  $U$  so that its distance from the origin is  $\frac{3}{6}$  less than that of  $W$ .

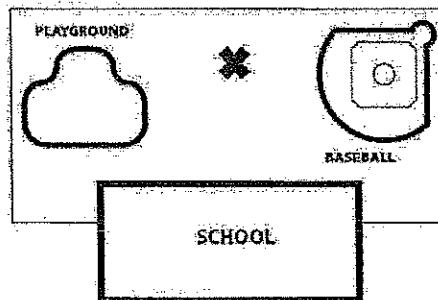


3. Number line  $\ell$  shows 12 units. Use number line  $\ell$  below to answer the questions.



- Plot a point at 1. Label it  $A$ .
- Label a point that lies at  $3\frac{1}{2}$  as  $B$ .
- Label a point,  $C$ , whose distance from zero is 8 units farther than that of  $B$ .  
The coordinate of  $C$  is \_\_\_\_\_.
- Plot a point,  $D$ , whose distance from zero is  $\frac{9}{2}$  less than that of  $B$ .  
The coordinate of  $D$  is \_\_\_\_\_.
- What is the coordinate of the point that lies  $\frac{17}{2}$  farther from the origin than  $D$ ?  
Label this point  $E$ .
- What is the coordinate of the point that lies halfway between  $F$  and  $D$ ?  
Label this point  $G$ .

4. Mr. Baker's fifth-grade class buried a time capsule in the field behind the school. They drew a map and marked the location of the capsule with an  $\times$  so that his class can dig it up in ten years. What could Mr. Baker's class have done to make the capsule easier to find?



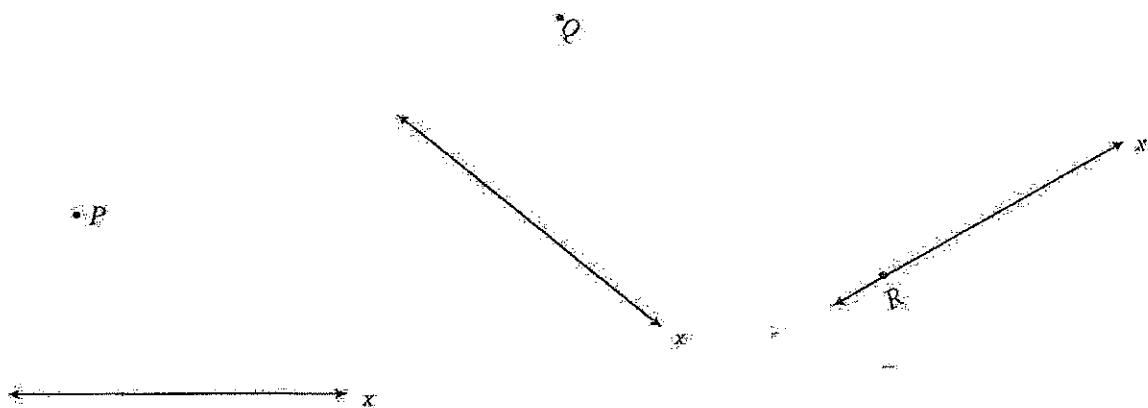


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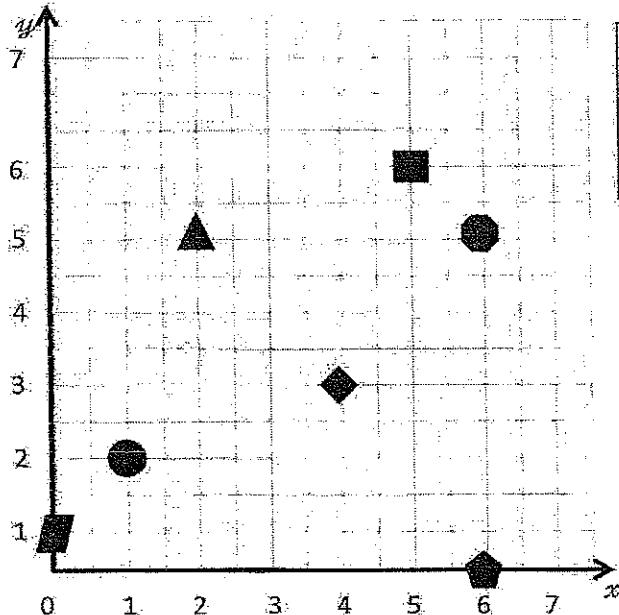
Date \_\_\_\_\_

1.

- a. Use a set square to draw a line perpendicular to the  $x$ -axis through points  $P$ ,  $Q$ , and  $R$ . Label the new line as the  $y$ -axis.



- a. Choose one of the sets of perpendicular lines above, and create a coordinate plane. Mark 7 units on each axis, and label them as whole numbers.
2. Use the coordinate plane to answer the following:



$x$ -coordinate	$y$ -coordinate	Shape
2	5	
1	2	
5	6	
6	5	

- a. Name the shape at each location.

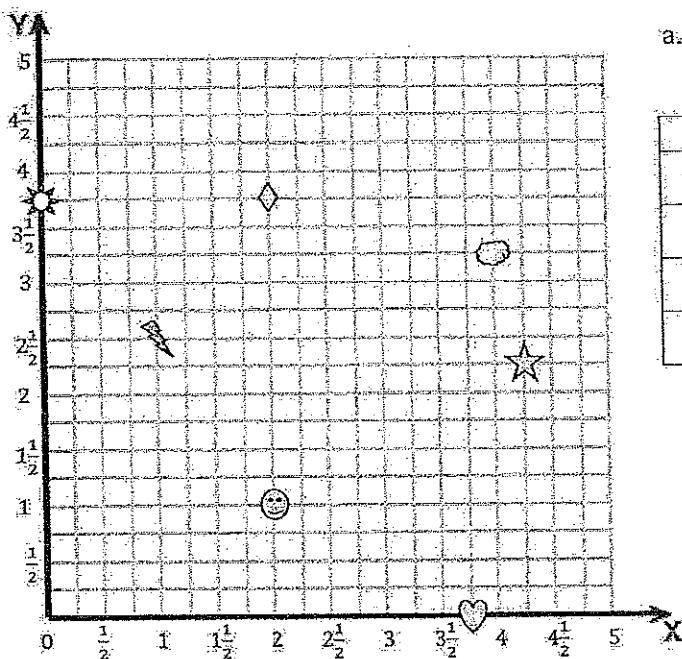
- b. Which shape is 2 units from the  $y$ -axis?

- c. Which shape has an  $x$ -coordinate of 0?

- d. Which shape is 4 units from the  $y$ -axis and 3 units from the  $x$ -axis?



3. Use the coordinate plane to answer the following.



a. Fill in the blanks.

Shape	x-coordinate	y-coordinate
Smiley Face		
Diamond		
Sun		
Heart		

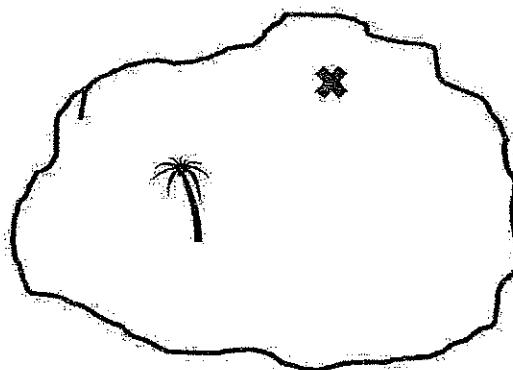
- b. Name the shape whose  $x$ -coordinate is  $\frac{1}{2}$  more than the value of the heart's  $x$ -coordinate.

c. Plot a triangle at  $(3, 4)$ .

d. Plot a square at  $(4 \frac{3}{4}, 5)$ .

e. Plot an X at  $(\frac{1}{2}, \frac{3}{4})$ .

4. The pirate's treasure is buried at the  $\star$  on the map. How could a coordinate plane make describing its location easier?



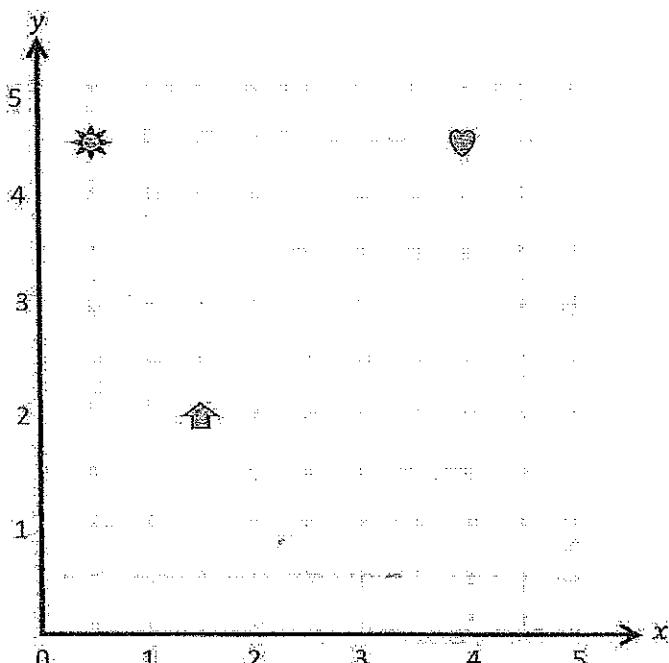


Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. Name the coordinates of the shapes below:

Shape	<i>x</i> -coordinate	<i>y</i> -coordinate
Sun		
Arrow		
Heart		



2. Plot a square at  $(3, 3\frac{1}{2})$ .

3. Plot a triangle at  $(4\frac{1}{2}, 1)$ .

Name \_\_\_\_\_

Date \_\_\_\_\_

1.

- a. Use a set square to draw a line perpendicular to the  $x$ -axis through point  $P$ . Label the new line as the  $y$ -axis.

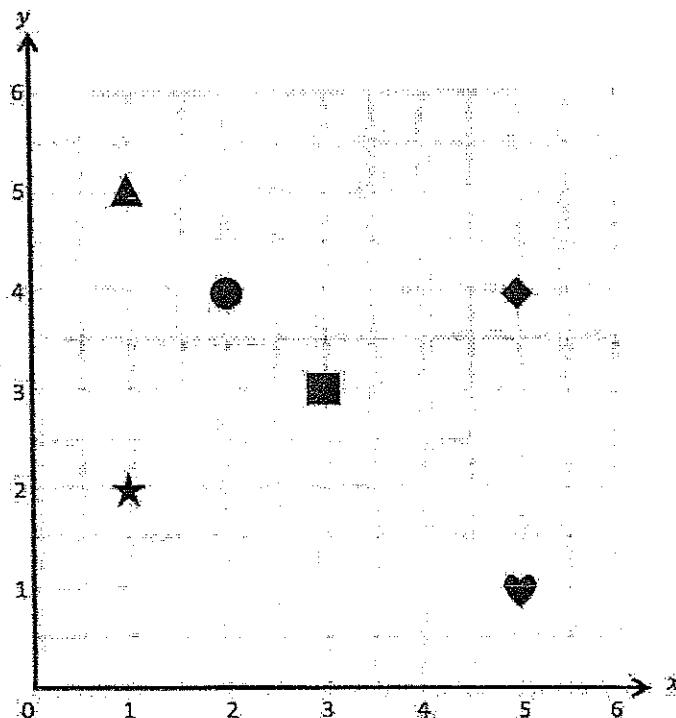


- b. Choose one of the sets of perpendicular lines above, and create a coordinate plane. Mark 5 units on each axis, and label them as whole numbers.
2. Use the coordinate plane to answer the following.

- a. Name the shape at each location.

$x$ -coordinate	$y$ -coordinate	Shape
2	4	
5	4	
1	5	
5	1	

- b. Which shape is 2 units from the  $x$ -axis?



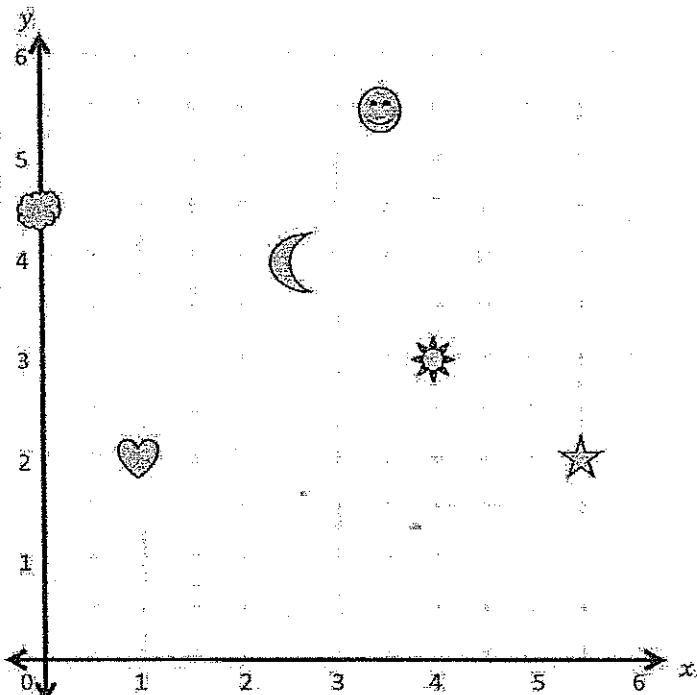
- c. Which shape has the same  $x$ - and  $y$ -coordinate?



3. Use the coordinate plane to answer the following.

- a. Name the coordinates of each shape.

Shape	x-coordinate	y-coordinate
Moon		
Sun		
Heart		
Cloud		
Smiley Face		



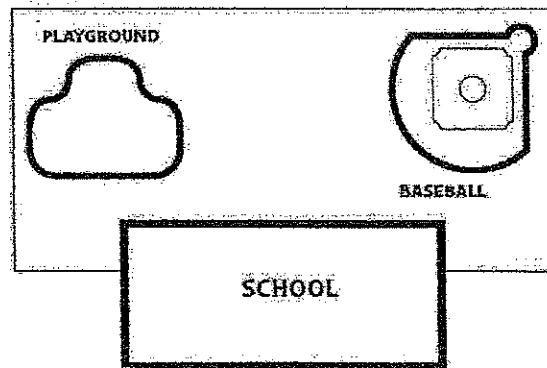
- b. Which 2 shapes have the same y-coordinate?

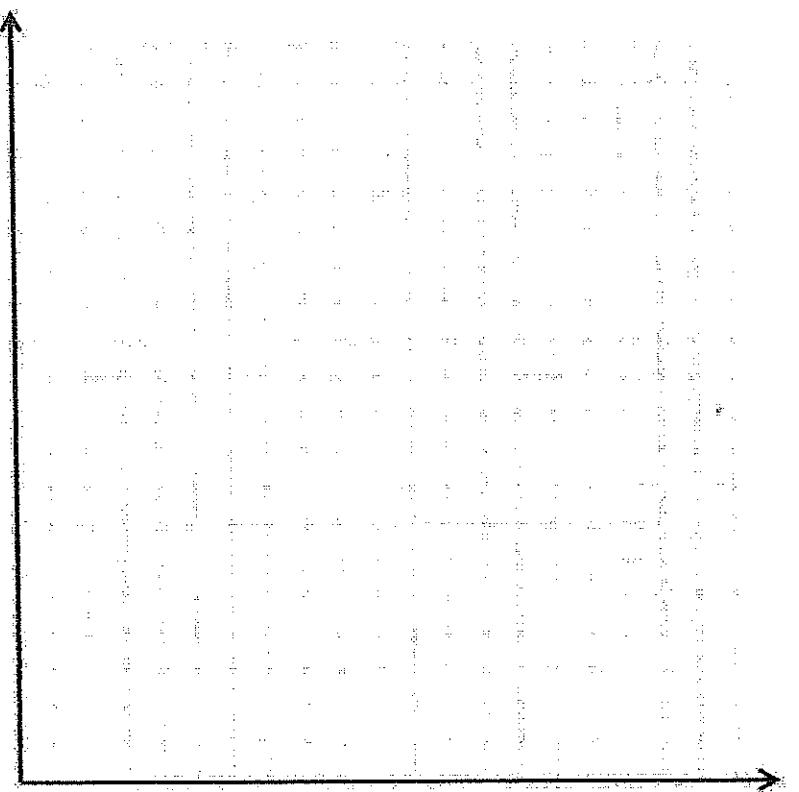
- c. Plot an X at  $(2, 3)$ .

- d. Plot a square at  $(3, 2\frac{1}{2})$ .

- e. Plot a triangle at  $(6, 3\frac{1}{2})$ .

4. Mr. Palmer plans to bury a time capsule 10 yards behind the school. What else should he do to make naming the location of the time capsule more accurate?





coordinate plane.

Name \_\_\_\_\_ Date \_\_\_\_\_

## Chapter Test, Form 2A

Read each question carefully. Write the letter for your answer on the line provided.

Identify the next three terms in each sequence.

1. 3, 9, 27, 81, ...  
A. 162, 324, 872      C. 162, 486, 1,458  
B. 243, 729, 2,187      D. 243, 486, 972

1. \_\_\_\_\_

2. 81, 90, 99, 108, ...  
F. 118, 128, 138      H. 118, 127, 136  
G. 117, 128, 139      I. 117, 126, 135

2. \_\_\_\_\_

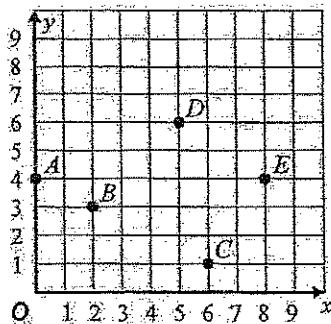
3. 95, 88, 81, 74, ...  
A. 69, 64, 59      C. 64, 54, 44  
B. 67, 59, 51      D. 67, 60, 53

3. \_\_\_\_\_

Use the coordinate plane for Exercises 4–6.

What is the name of each point?

4. (2, 3)  
F. A      H. C  
G. B      I. D



4. \_\_\_\_\_

5. (6, 1)  
A. D      C. C  
B. B      D. E

5. \_\_\_\_\_

6. Name the coordinate for point A.  
F. (0, 4)      H. (6, 1)  
G. (2, 3)      I. (5, 6)

6. \_\_\_\_\_

What is the value of each expression?

7.  $15 + (12 \div 3)$   
A. 8      C. 19  
B. 10      D. 21

7. \_\_\_\_\_

8.  $45 - (6 \times 6)$   
F. 9      H. 46  
G. 87      I. 234

8. \_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_

## Chapter Test, Form 2A *(continued)*

Read each question carefully. Write your answer on the line provided.

Evaluate each expression.

9.  $3 \times 8 \div 4 =$

9. \_\_\_\_\_

10.  $4 \times 4 - 8 =$

10. \_\_\_\_\_

11. What are the next three terms in the following sequence? 3, 6, 12, 24, ...

11. \_\_\_\_\_

12. Paulette started with \$105 in her savings account. She deposited \$45, withdrew \$50, and then deposited \$20. How much money is in Paulette's savings account now?

12. \_\_\_\_\_

13. The tallest building in the United States is the Willis Tower located in Chicago, Illinois. The Willis Tower is 1,451 feet tall. The tallest building in the world is Taipei 101 located in Taipei, Taiwan. Taipei 101 is 1,671 feet tall. How many feet taller is Taipei 101 than the Willis Tower?

13. \_\_\_\_\_

Write each phrase as a numerical expression.

14. add 8 and 32, then divide by 5

14. \_\_\_\_\_

15. multiply 6 and 7, then subtract 4

15. \_\_\_\_\_

16. divide 36 by 3, then add 9

16. \_\_\_\_\_

17. subtract 4 from 39, then divide by 5

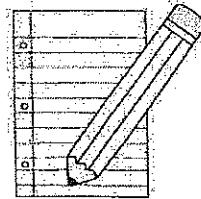
17. \_\_\_\_\_

Name #: \_\_\_\_\_

Date: \_\_\_\_\_

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# Paragraph of the Week



Over the course of this week, you will be writing a paragraph. You will choose a topic (within the given parameters) and will brainstorm, draft, and write a complete paragraph. Be sure to use all that we have learned in class when writing this paragraph. So let's get started!

Monday

Brainstorm your thoughts on whether or not you think there is too much violence on television. What do you consider too much? What impact does violence on TV have on others? What can we do to change it or do we even need to? There is no right or wrong, just list your opinions and evidence to back them up!

Tuesday

Using the brainstorm you created yesterday, choose 3 of your reasons for your opinion. They will become the three details about the topic. Write a sentence for each. Then, write an explanation sentence for each. Then write the topic/closing sentences to create an entire paragraph about your topic.

Wednesday

Now that your paragraph is written, choose at least two sentences to enhance and revise. Using the revision checklist, make sure that the two sentences add more to your writing. You may also go back to Tuesday's page and revise on there as well.

Thursday

It is time to put all of your work together in the form of a final draft. This is where you take your revisions, polish them up, and create a final product for your readers. Be sure to write neatly and check the rubric.

Revising Checklist

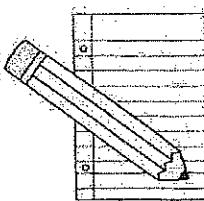
	Topic is narrow and manageable.
	The sentences are varied (complex, compound, simple).
	The sentences have different beginnings.
	The details support the main idea/topic sentence.
	The spelling, punctuation, and capitals are correct.
	Specific descriptive words are used to enhance the writing (ie: WOW words instead of BLAH words)

Paragraph Rubric

4	Complete sentences, topic sentence, 3 supporting details with evidence sentence, vivid adjectives, engaging beginning, a great deal of varied sentence structure, correct punctuation, correct spelling, neat and legible, on topic.
3	Complete sentences, topic sentence, 3 supporting details with evidence sentence, adjectives, engaging beginning, some varied sentence structure, closing sentence, correct punctuation, correct spelling, neat and legible, on topic.
2	Mostly complete sentences, topic sentence, 3 supporting details which may contain evidence sentence, closing sentence, may or may not include adjectives and engaging beginning, a few varied sentence structure, mostly correct punctuation and correct spelling, somewhat neat and legible, somewhat on topic.
1	Some complete sentences, may or may not contain the following: topic sentence, 3 supporting details with evidence sentence, vivid adjectives, engaging beginning, varied sentence structure, closing sentence, incorrect punctuation, incorrect spelling, not really neat or legible, off topic.

Name #: \_\_\_\_\_

Date: \_\_\_\_\_



## Paragraph of the Week

Over the course of this week, you will be writing a paragraph. You will choose a topic (within the given parameters) and will brainstorm, draft, revise, and write a complete paragraph. Be sure to use all that we have learned in class when writing this paragraph. So let's get started!

Monday

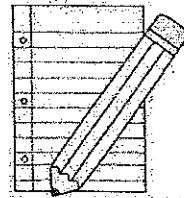
Brainstorm your thoughts on whether or not you think there is too much violence on television. What do you consider too much? What impact does violence on TV have on others? What can we do to change it or do we even need to? There is no right or wrong, just list your opinions and evidence to back them up!

Is there too much violence on television?

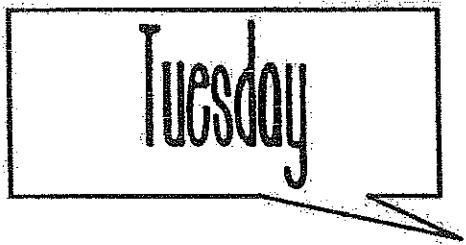
A large, rounded rectangular frame intended for students to write their responses to the brainstorming question.

Name #: \_\_\_\_\_ Date: \_\_\_\_\_

# Paragraph of the Week



Now that you have the topic of your paragraph, you will write the topic sentence, main body sentences (with explanations) and your closing sentence. Be sure that they are all on topic, as this is the rough draft of your paragraph.



Using the brainstorm you created yesterday, choose 3 of your reasons for your opinion. They will become the three details about the topic. Write a sentence for each. Then, write an explanation sentence for each. Then write the topic/closing sentences to create an entire paragraph about your topic.

Topic Sentence : \_\_\_\_\_

Detail One : \_\_\_\_\_

Explanation : \_\_\_\_\_

Detail Two : \_\_\_\_\_

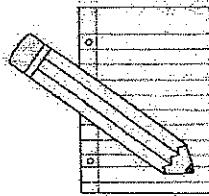
Explanation : \_\_\_\_\_

Detail Three : \_\_\_\_\_

Explanation : \_\_\_\_\_

Closing Sentence : \_\_\_\_\_

Name #: \_\_\_\_\_ Date: \_\_\_\_\_



## Paragraph of the Week

When you revise and edit, you take what you have and "make it better".  
Use vivid adjectives, vary your types of sentences, and make your writing interesting to read.



Now that your paragraph is written, choose at least two sentences to enhance and revise. Using the revision checklist, make sure that the two sentences add more to your writing. You may also go back to Tuesday's page and revise on there as well.

Original Sentence : \_\_\_\_\_

\_\_\_\_\_

Revision : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Topic is narrow and manageable.
The sentences are varied (complex, compound, simple).
The sentences have different beginnings.
The details support the main idea/topic sentence.
The spelling, punctuation, and capitals are correct.
Specific descriptive words are used to enhance the writing (ie: WOW words instead of BLAH words)

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Original Sentence : \_\_\_\_\_

\_\_\_\_\_

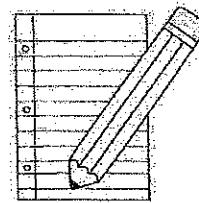
Revision : \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name #: \_\_\_\_\_ Date: \_\_\_\_\_

# Paragraph of the Week



A final draft is as "perfect" as you can get it. Be sure you really show your writing off here!



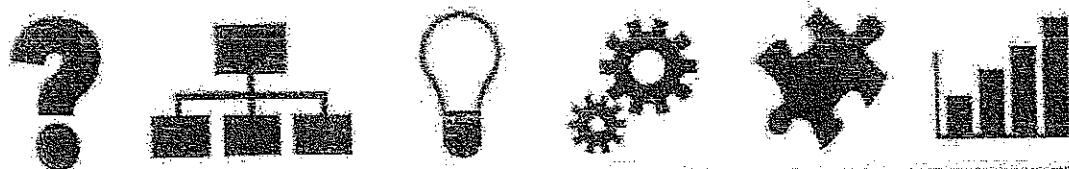
It is time to put all of your work together in the form of a final draft. This is where you take your revisions, polish them up, and create a final product for your readers. Be sure to write neatly and check the rubric.

<b>4</b>	Complete sentences, topic sentence, 3 supporting details with evidence sentence, closing sentence, vivid adjectives, engaging beginning, a great deal of varied sentence structure, correct punctuation, correct spelling, neat and legible, on topic.
<b>3</b>	Complete sentences, topic sentence, 3 supporting details with evidence sentence, adjectives, engaging beginning, some varied sentence structure, closing sentence, correct punctuation, correct spelling, neat and legible, on topic.
<b>2</b>	Mostly complete sentences, topic sentence, 3 supporting details which may contain evidence sentence, closing sentence, may or may not include adjectives and engaging beginning, a few varied sentence structure, mostly correct punctuation and correct spelling, somewhat neat and legible, somewhat on topic.
<b>1</b>	Some complete sentences, may or may not contain the following: topic sentence, 3 supporting details with evidence sentence, vivid adjectives, engaging beginning, varied sentence structure, closing sentence, incorrect punctuation, incorrect spelling, not really neat or legible, off topic.

# Egg Drop STEM

## Challenge

Challenge: Design and build a device that will hold an egg that when dropped from a height the egg in the device doesn't break.



Name \_\_\_\_\_

baggies	lollipop sticks	sponges
Balloons	magnets	stapler
Boxes	needle and thread	straws
Cardboard	newspaper	string
Cereal	paper	Styrofoam balls
Coffee filters	paper cups	tape
Cornstarch	paper clips	Tape measure
Cotton balls	paper towels	Tennis balls
Cotton swabs	paper towel rolls	tin can
Craft paper	pencil	Toilet paper rolls
Craft sticks	ping pong balls	toothpicks
Cupcake liners	pipa cleaners	twine
Duct tape	plastic eggs	Twist ties
Easter grass	plastic jars	Vegetable containers
Faux plants	play dough	Washi Tape
Feathers	pom-poms	water
Felt	pool noodles	wire
Flour	raffia	wooden plants
Foam core	ribbon	yarn
Glue	rubber bands	Zip ties
Grocery bags	rubber cement	
Hosiery	scissors	
Leaves	shredded paper	
LEGO® bricks	skewers	

## My STEM Challenge:

**ASK**

What is the problem?

**Collect Information**

What information & resources will I need?

**Imagine**

How can I solve the problem?

**Plan**

What or where do I need?  
What steps do I take?

**Create**

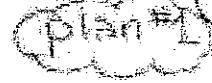
I will test my solution  
and take it from "the  
Tee"

**IMPROVE** Plan #2

What changes can I make  
to improve my Plan?

# My First Plan

Draw It (label parts)

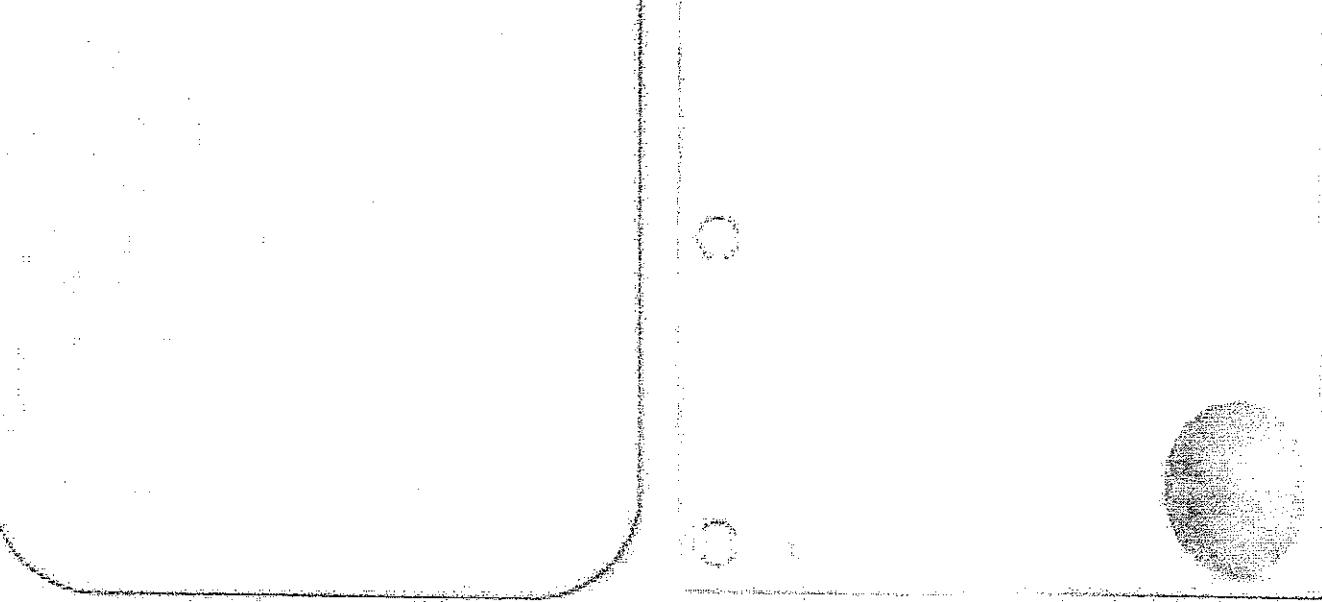


Testing My Egg-making Device		
Height (from mouth?)	Device type	Success?
1st drop	clay pot	Y/N

Dream  
Action

Label Part(s)

My Next Plan



Height

2nd Drop

The 2nd Drop type the class

