Name: _____ **Math 8/Science Checklist: Q3 W 9-11 March 12th- March 28th**

Big Ideas:

Math:	Science:
• Systems of equations: number of solutions, by graphing, by substitution • Geometry: parallel lines, triangles, unknown measures	• Biotechnology • Cellular Energy

Upcoming Dates:

Week 9	Week 10	Week 11
☐ 3/16: Math study guide due	☐ 3/23: All Quarter 3 work due	☐ 3/26: Math assessment ☐ 3/28: Seminar ☐ 3/28: Math assessment corrections due ☐ 3/29: No school

Shelfwork: Show All Work. Explore work is to be checked against the control and then marked complete.
Complete individually unless noted with a "G"

Lesson	Explore	Expand	Extend
❑ Systems by graphing AND number of solutions ❑ #1 Lesson check in 3/12	☐ Solving systems of equations-Slope intercept form (by GRAPHING) (G) (___✓, M, 0) ☐ Equations: Number of solutions (G) (___✓, M, 0)	☐ What were the headlines after a mad scientist trained....(___%) ☐ Study guide (___%)	❑ Create AND teach a green product card (use Extend rubric (___%) **OR** ❑ Apply purple book pg. 263-264(___%)

Monday's work plan: (Add missing works from last checklist) Time Estimate:	Tuesday's work plan: Time Estimate:

❑ Biotech PP HW ❑ #2 Lesson Check-In 3/13	☐ Biotechnology Webquest(G) (___✓, M, 0)	☐ Extracting DNA from Fruit LAB (___%) ☐ GMO Seminar Article (___%)	☐ Cellular Respiration Lab (___%) ☐ Choice Extension proposal (___%)

Tues/Wednesday's work plan: Time Estimate:	Wed/Thursday's work plan: Time Estimate:

❑ Systems of equations: Substitution part 1 AND Part 2 HW ❑ #3 Check-in 3/14	☐ Why Does the President Put Vegetables in His Blender?(G) (___✓, M, 0) ☐ Why are there rules in croquet?(G) (___✓, M, 0)	☐ What kind of monkey can fly? (___%) **OR** ☐ 9.1 purple book practice pg 261-262 (___%)	☐ Create AND teach a green product card (use Extend rubric (___%) **OR** ☐ Apply purple book pg. 263-264(___%)

Thurs/Friday's work plan: Time Estimate:	Fri/Monday's work plan: Time Estimate:

☐ Parallel lines cut by a transversal HW ☐ #4 Check-in 3/15	☐ Cutting Up Versatile (G) (___✓, M, 0) ☐ Parallel Lines Cut by a Transversal Maze (G) (___✓, M, 0)	☐ Worksheet #3(parallel lines cut by a transversal (#'s 1-16) (____%) **OR** ☐ Lunch lines (____%)	☐ Create AND teach a green product card (use Extend rubric (____% **OR** ☐ Apply purple book pg.175-176(____%)
Mon/Tuesday's work plan: Time Estimate:		Tues/Wednesday's work plan: Time Estimate:	
☐ Triangle sum theorem AND Remote interior & exterior angles HW ☐ #6 Lesson Check-In 3/16	☐ Triangle sum theorem maze (G) (___✓, M, 0) ☐ Triangle sum theorem and exterior task cards (G) (___✓, M, 0)	☐ 6.1 Purple book pg. 161-162 (___%)	☐ Apply Purple book pg 163-164(____%) **OR** ☐ Create AND teach a green product card (use Extend rubric (____%)
Wed/Thursday's work plan: Time Estimate:		Thur/Friday's work plan: Time Estimate:	
☐ Photosynthesis and Cell Respiration HW ☐ #5 Lesson Check-In 3/20	☐ Photosynthesis and cellular respiration card sort and Venn diagram (___✓, M, 0)	☐ Cellular energy product (____%)	☐ Cellular Respiration Lab (____%) ☐ Choice Extension proposal (____%)
Fri/Monday work plan: Time Estimate:		Mon/Tuesday's work plan: Time Estimate:	

❑ Properties of similar figure AND Unknown measures HW ❑ #7 Lesson Check-In 3/21	◻ Similar figures and proportions (___✓, M, 0) ◻ Similar figures matching cards (___✓, M, 0)	◻ Practice 4-4 worksheet (____%)	☐ Similarity in pictures (____%) **OR** ☐ Create AND teach a green product card (use Extend rubric (____%)
Tues/Wednesday's work plan: Time Estimate:		Wednesday's work plan: Time Estimate:	

◻ Re-loop: #8	☐ Earth history practice with test taking strategies (____%) ◻ Log into Edgenuity and complete orientation video(___✓, M, 0)

Homework: (*All assignments are to be done independently and are due the next day unless noted*):

- ◻ Monday 3/12: **Biotech PP** video on EdPuzzle with guided notes
- ◻ Tuesday 3/13: **Systems of equations: Substitution part 1** AND **Part 2** videos with guided notes on EdPuzzle
- ◻ Wednesday 3/14: **Parallel lines cut by a transversal** video with graphic organizer on EdPuzzle
- ◻ Thursday 3/15: **Triangle sum theorem** AND **Remote interior & exterior angles** video on EdPuzzle with guided notes
- ◻ Friday 3/16: Review and organize binder and complete missing work as needed as well as test corrections
- ◻ Monday 3/19: **Photosynthesis and Cell Respiration** video with guided notes on EdPuzzle
- ◻ Tuesday 3/20: **Properties of similar figures** AND **Unknown measures of similar figures** videos on EdPuzzle with guided notes.
- ◻ Wednesday 3/21: Complete missing assignments.
- ◻ Thursday 3/22: **Test corrections and late work**
- ◻ Friday 3/23: Review and organize binder Review Study Guide and EdPuzzle videos for the Assessment on Monday
- ◻ Monday 3/26: **Review Seminar reading for tomorrow**
- ◻ Tuesday 3/27: Organize binder and backpack.
- ◻ Wednesday 3/28:Take home only what you need and put your backpack in a safe place that you will remember. Collect supplies you will need when you return. Be safe and have Fun!

Lesson Requests:

- ❑ _____
- ❑ _____

Notes and formulas:

Biotechnology Lesson

Biotechnology Definition:

Three Types of Biotechnology:

1.
2.
3.

Traditional:

1.

2.

Modern:

1.

2.

Effect on our Lives:

CCM8 Systems of Equations: Writing Equations and Solving With Substitution Part 1

When solving a system of equations, it is often helpful to write equations that can model the situations and then use a method called substitution to solve the system of equations. If both equations are set equal to the same variable, then you can set the equations equal to each other and solve them.

Examples

Solve each system of equations algebraically.

1. Jill and Jeff are both saving their money. Jill already has $55 in her bank account and she can earn $25 a week for doing yard work for her neighbors. Jeff has $80 in his bank account and earns $20 a week for helping his grandmother with her household chores. How long will it take for Jill and Jeff to have the same amount of money?

2. Frank buys two different plants. When he bought the plants, plant A was 2cm tall, and plant B was 5cm tall. Plant A grew at a rate of 1.5cm per day and plant B grew at a rate of 1cm per day. How long does it take for the two plants to reach the same height?

Independent Practice

Solve each system of equations algebraically.

3. Kelly wants to buy personalized t-shirts for her friends. One company charges a flat rate of $20 per order and then $5 per shirt. The other company only charges $7 per shirt. When would both companies charge the same amount for the same number of shirts?

4. Susan buys a bag of candy that contains 40 snack size candy bars and eats 2 pieces of candy a day. Tom buys a bag of candy that contains 60 snack size candy bars and eats 4 pieces of candy each day. On what day will Tom and Susan have the same amount of candy?

Name_____Guided notes:**Systems of equations Substitution Part 2** Community ____

When solving a system of equations, it is often helpful to write equations that can model the situations and then use a method called _____ to solve the system of equations.

If one of the equations is solved for a _____, you can substitute that equation into the other equation and solve the system.

1. Rachel is twice as old as Sarah. The sum of Rachel and Sarah's age is equal to 48. How old are Sarah and Rachel?

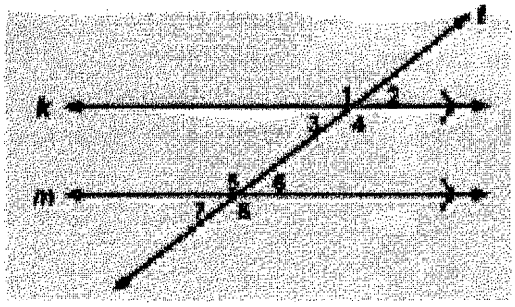
2. Scott buys five more apples than he does oranges. If Scott bought a total of 13 apples and oranges, how many apple did Scott buy?

Pause: Complete independently

3. Ross is half as old a Kristen. The difference in Kristen and Ross' age is 12. How old are Ross and Kristen?

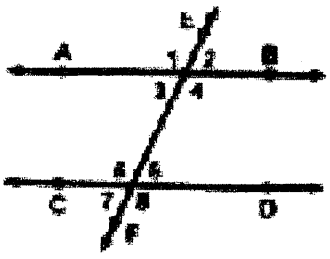
4. Philip buys three times as many pieces of candy than he buys sodas when he went to the store. He bought a total of 10 items at the store. Some of those items were pieces of candy and the rest of the items were sodas. How many pieces of candy and how many sodas did Philip buy at the store?

Parallel lines cut by a Transversal guided notes Name_____



Vocabulary	Definition	In the diagram above
Transversal	A line intersecting two or more other lines	
Corresponding Angles	Any pair of angles that have the same relative position at each intersection where a straight line crosses two others	
Alternate interior angles	Nonadjacent interior angles that lie on opposite sides of the transversal	
Alternate exterior angles	Nonadjacent exterior angles that lie on opposite sides of the transversal	
Same side interior angles	Lie on the same side of the transversal between the other two lines	

Use the following figure for each example problems below.
$\overline{AB}$ and $\overline{CD}$ are parallel. The figure is not drawn to scale.



Example 1: $m \angle 1 = 105°$, find the $m \angle 5$

Example 2: $m \angle 4 = 4x$ and $m \angle 5$ is $3x+5$. Find the value of x and the measure of $\angle 4$ and $\angle 5$.

Pause: Try on your own.

1. From the diagram above, name two pairs of corresponding angles._____
2. From the diagram above, name the alternate interior angles._____
3. From the diagram above, name the alternate exterior angles._____
4. From the diagram above, name the same side interior angles._____
5. Given the $m \angle 7 = 70°$, find the measure of as many of the other angles as possible.

6. Given the $m \angle 3 = 2x + 1$ and $m \angle 1$ is $4x - 1$. Find the value of x.

7. Given the $m \angle 4 = 134$ and $m \angle 5$ is $4x - 2$. Find the value of x.

Triangle Sum Theorem Notes Name_____

How many degrees are in a straight angle?

How does that straight angle relate to measures of the interior angle of a triangle?

We can use this knowledge to determine the missing measure of a triangle. Draw the triangles below, a sketch will do, since triangles are not drawn to scale.

1)	2)	3)

Pause: You try! Sketch the triangles below.

1)	2)	3)

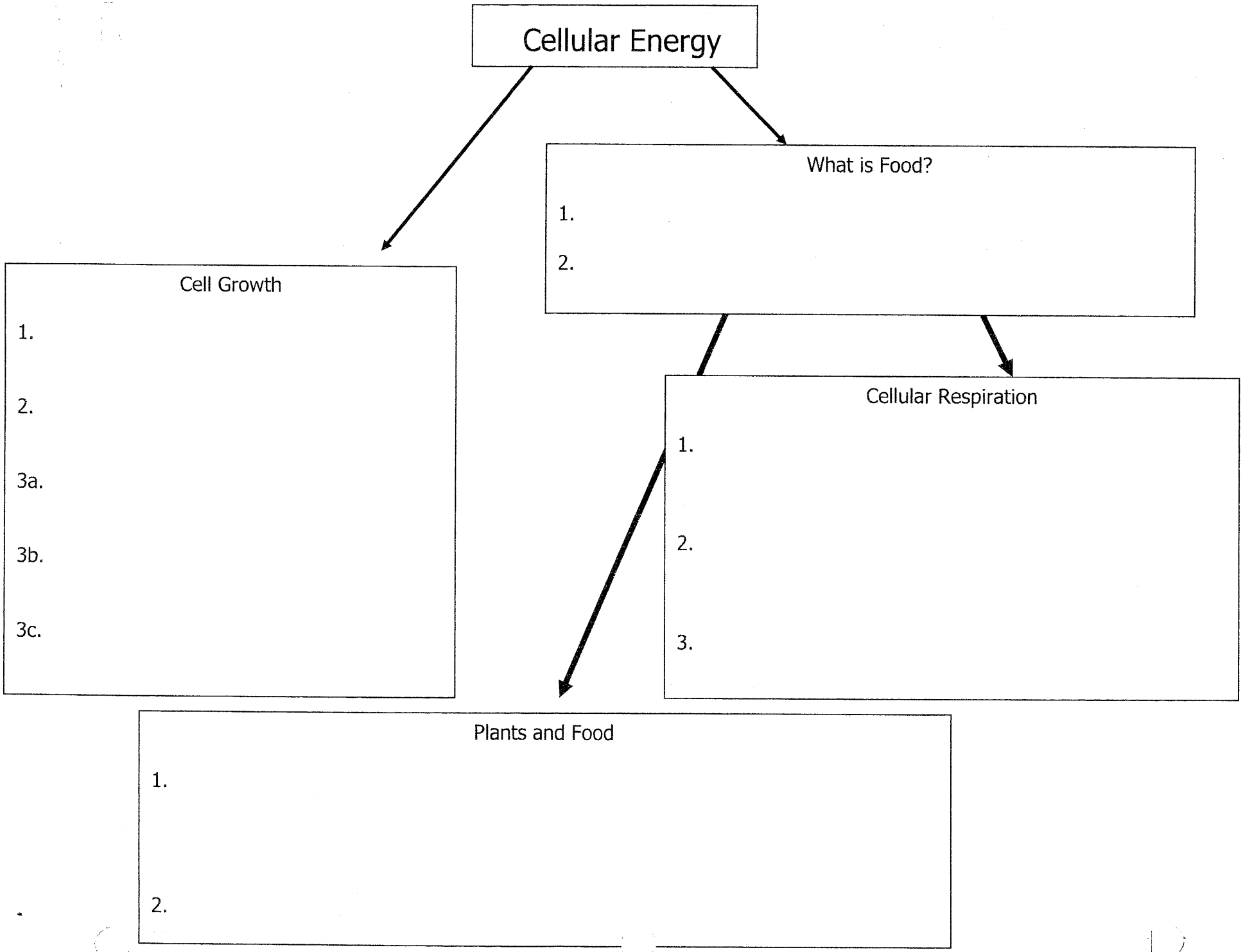
Remote interior and exterior angles notes Name_____

Draw triangle here:		
Vocabulary	Definition	In the diagram above

1	2	3

Pause:

1	2	3


Cellular Energy
What is Food?
1.
2.
Cell Growth
1.
2.
3a.
3b.
3c.
Cellular Respiration
1.
2.
3.
Plants and Food
1.
2.

Properties of similar figures notes Name_____

Draw figures here:

Vocabulary	Definition	In the diagram above

To determine if two polygons are similar, they must:

1)_____

2)_____

3)_____

Determine if the figures are similar:

Pause:
Draw figures here:

1) In the figure above, trapezoid ABCD ≅ RSTU.

Determine the four corresponding sides:

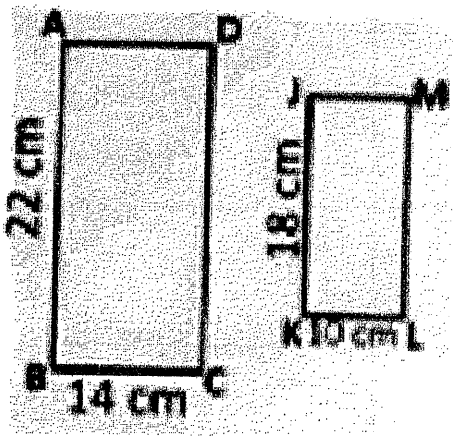
_____ _____ _____ _____

Determine the four corresponding angles:

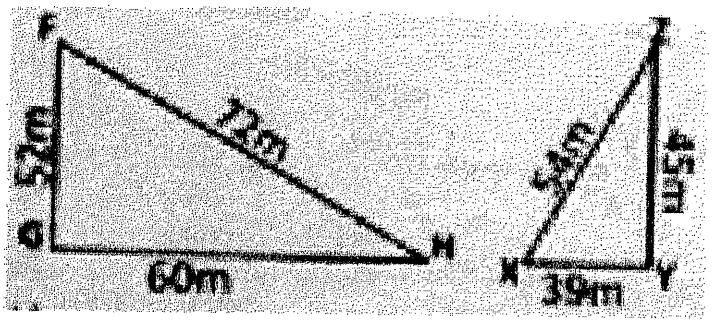
_____ _____ _____ _____

Determine if the figures below are similar by using a statement of proportionality.

2)



3)



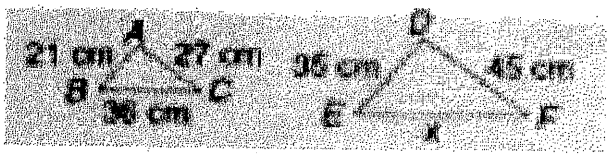
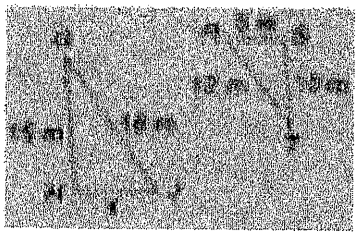
Unknown measurements of similar figures notes Name_____

In order for two figures to be _____. They MUST have _____ corresponding angles and _____ corresponding sides.

When you know two figures are _____, but you have a missing length of a side, you can us a _____ to solve.

1)	2)
3)	

Pause:

1) 	2) 
3) A mailbox that is 4 foot tall casts a 12-foot long shadow. A street lamp is 10 feet tall. How long will the lamp's shadow be?	

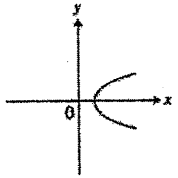
Student:

Class:

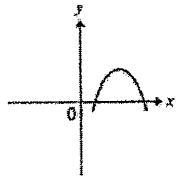
Date:

1 **Which of the following graphs does NOT describe y as a function of x?**

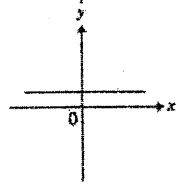
A.



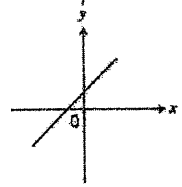
B.



C



D.



2. **The following relations are written as equations. Which one is NOT a function?**

A $x = 4$

B $y = 4$

C $x = y + 4$

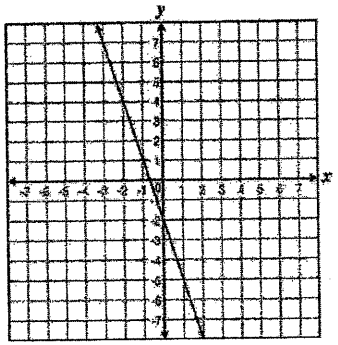
D $y = x + 4$

3. **The table below gives some x-values and their corresponding y-values.**

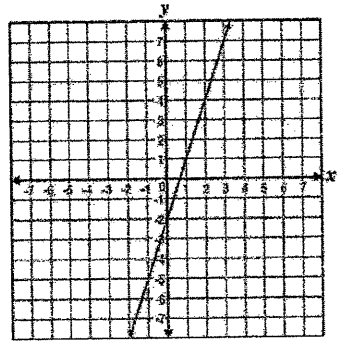
x	-2	-1	0	1	2	3
y	-8	-5	-2	1	4	7

Which graph shows the relationship between x and y?

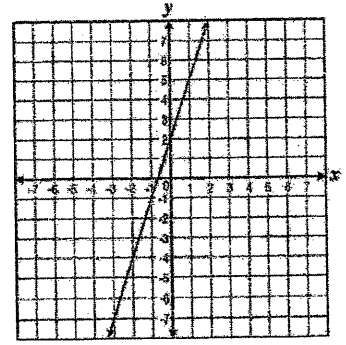
A.



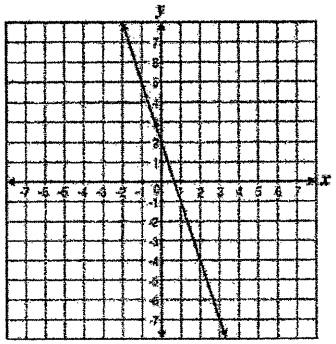
B.



C



D.



4 Viola graphed the function $f(x) = 3x - 12$ on a coordinate plane. Which statement about this graph is true of all functions?

A. It is a linear graph.

B. It has a positive correlation.

C. It assigns a specific input to each output.

D. It assigns a unique output to each input.

5 **Which relation below is a function?**

A.

x	*y*
0	–5
1	–6
0	–7
2	–8

B.

x	*y*
0	5
1	6
0	7
2	8

C.

x	*y*
0	0
1	1
0	4
2	9

D

x	*y*
0	0
1	3
2	4
3	6

6 Joanna pays $40 plus a $2 surcharge each month for her high-speed internet service. Which table BEST represents the relationship between m, the number of months, and t, the total amount Joanna pays for the service?

A

Joanna's Internet Service Fee

m (number of months)	1	2	3
t (dollars)	$40	$80	$120

B.

Joanna's Internet Service Fee

m (number of months)	1	3	5
t (dollars)	$40	$160	$200

C.

Joanna's Internet Service Fee

m (number of months)	2	4	6
t (dollars)	$42	$82	$122

D

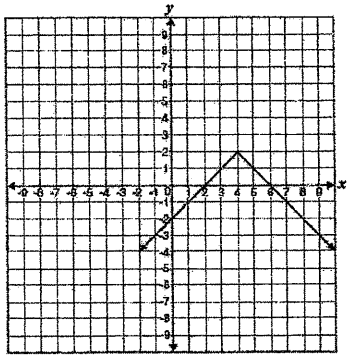
Joanna's Internet Service Fee

m (number of months)	1	2	3
t (dollars)	$42	$84	$126

7 Select the option from the menu that BEST completes the sentence.

Two functions are modeled below. Function A is represented by a graph and Function B is represented by an equation.

Function A



Function B

$y = 2x \quad 4$

The maximum value of Function A is [ ] the maximum value of Function B.

8. Pete's Plumbing charges a flat fee of $28 for a house call and inspection and an additional $35 per hour for any onsite work. Which table represents a cost function with a greater hourly rate than these charges?

A

Hours Worked	Total Charge (in dollars)
3	109
5	163
7	217

B.

Hours Worked	Total Charge (in dollars)
3	136
5	208
7	280

C.

Hours Worked	Total Charge (in dollars)
6	174
9	261
12	348

D.

Hours Worked	Total Charge (in dollars)
6	209
9	296
12	383

9. One function can be represented by $f(x) = 2x + 3$. Three values of another function, $g(x)$, are given in the table below. The domains of both functions are all real numbers.

x	$g(x)$
2	−4
4	−5
6	−6

Which statement **best** compares the functions?

A The functions represent parallel lines.

B. The functions represent the same line.

C. The functions represent perpendicular lines.

D The functions represent intersecting lines that are not perpendicular.

10. **For which pair of functions are all intercepts (x and y) negative?**

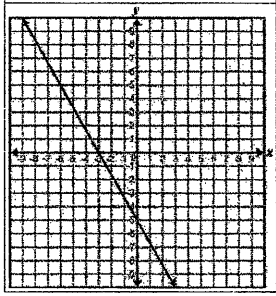
A.

Function 1	Function 2
y is 4 less than twice x	$y = 3x - 1$

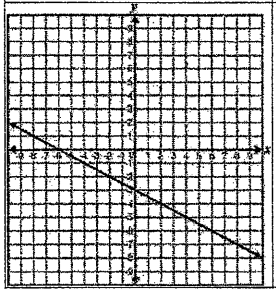
B.

Function 1	Function 2
y is the opposite of x minus 3	x | y: (−2, −4), (0, −2), (1, −1)

C.

Function 1	Function 2
	x | y: (4, −2), (2, −3), (0, −4)

D.

Function 1	Function 2
	$2x + y = -4$

11. **Which represents a linear function?**

A. $y = \frac{5}{x}$

B. $y = x^3 \quad 3$

C. $y = |x \quad 1|$

D. $y = \frac{1}{2}x + 2$

12. Which process would transform the equation $y = x$ into a nonlinear function?

A. Add x to the x-term.

B. Add 5 to the x-term.

C. Multiply the x-term by x.

D. Multiply the x-term by 5.

13. **Which statement explains why the numerical pattern below is a linear progression?**

1, 4, 7, 10, . . .

A. The pattern is positive.

B. The pattern starts with 1.

C. The pattern continues infinitely.

D. The pattern has a constant rate of change.

14. **Bacteria grow in colonies over time. Which table shows growth of bacteria colonies that can be modeled by a linear graph?**

A.

Time (in hours)	1	2	3	4
Number of Colonies	1	4	9	16

B.

Time (in hours)	1	2	3	4
Number of Colonies	5	10	15	20

C.

Time (in hours)	1	2	3	4
Number of Colonies	1	16	81	256

D.

Time (in hours)	1	2	3	4
Number of Colonies	5	25	125	625

15 **Which of the following tables represents a linear relationship between x and y?**

A

x	2	5	8	11
y	1	2	4	8

B

x	2	5	8	11
y	–1	0	2	5

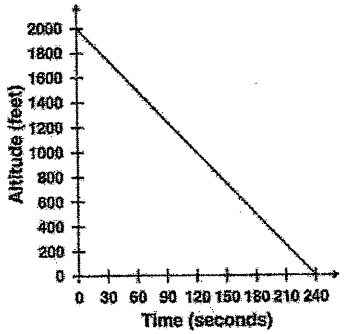
C

x	2	5	8	11
y	–4	1	2	3

D

x	2	5	8	11
y	–4	–2	0	2

16 **The graph below represents the landing of an airplane from an altitude of 2000 feet.**



Which of the following equations represents the airplane's descent?

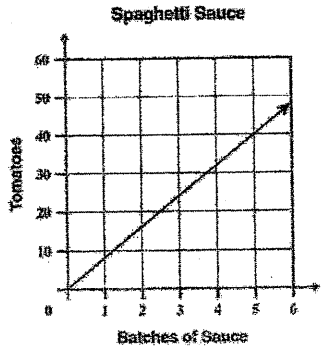
A $y = \frac{25}{3}x + 2000$

B. $y = \frac{26}{3}x + 2000$

C $y = \frac{30}{3}x + 2000$

D $y = \frac{25}{3}x + 2000$

17. **The graph shows the number of tomatoes needed to prepare batches of spaghetti sauce.**



Which statement is true according to this graph?

A Divide the number of tomatoes by 5 to find the number of batches they will yield.

B. Divide the number of tomatoes by 8 to find the number of batches they will yield.

C. Multiply the number of batches by 10 to find the number of tomatoes needed.

D. Multiply the number of batches by 15 to find the number of tomatoes needed.

18. A swimming pool is being drained. The table below shows the volume of water, y, in cubic feet, after x minutes of draining.

x	y
1	8850
2	8200
3	7550
4	6990
5	6340

Which equation can be used to model the function shown in the table?

A $y = 650x + 8850$

B. $y = 650x + 9500$

C. $y = -650x + 8850$

D. $y = -650x + 9500$

19 **A zoo charges $6 per adult and $2 per child for admission. Which equation can be used to find C, the cost of admission for a group of 40 children and a adults?**

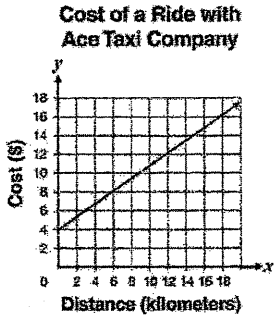
A $C = 40a(6 + 2)$

B $C = a(6 + 2 \times 40)$

C $C = 6a + 2 \times 40$

D $C = 6 \times 40 + 2a$

20. **The line in the graph below shows the relationship between the distance of a taxi ride, x, and the cost for that ride, y.**



Based on the graph, which equation can be used to determine the cost, in dollars, for a taxi ride of x kilometers?

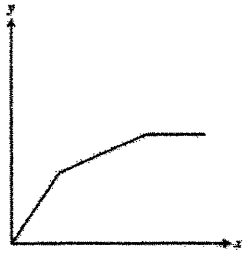
A $y = \frac{2x}{3} + 2$

B $y = \frac{2x}{3} + 4$

C $y = \frac{3x}{2} + 2$

D $y = \frac{3x}{2} + 4$

21 **Which scenario BEST describes the graph below?**



A As the weight of a package increased, the shipping cost increased proportionally.

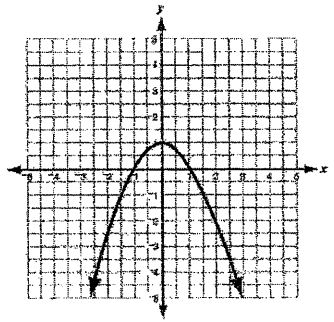
B. A race car driver accelerated quickly, stopped, accelerated again, and then stopped quickly.

C. A vacuum salesperson sold a constant number of vacuums and then experienced a steady increase in the number of vacuums sold.

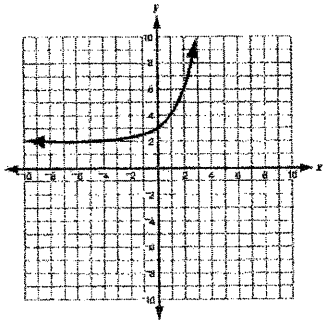
D. A puppy gained weight quickly, still gained weight but not as quickly, and then stayed at a constant weight.

22. Which graph represents a decreasing linear function?

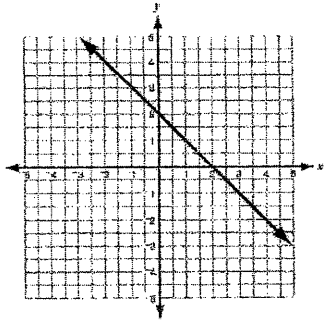
A



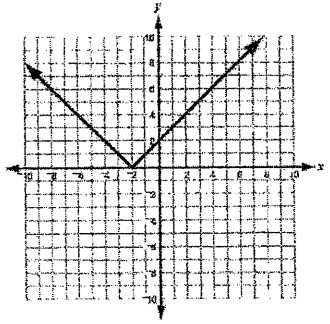
B



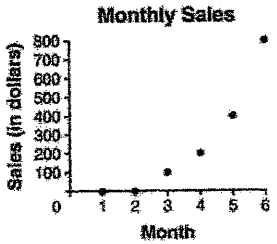
C.



D.



23 **Yvonne began making beaded jewelry at home. After 2 months of advertising, customers began to buy her jewelry. The graph shows the number of sales she made in the first 6 months.**



Based on this graph, which statement is true?

A. Yvonne's sales increased $100 every month.

B. Yvonne's sales increased $200 every month.

C. The rate of Yvonne's sales was constant every month.

D. The rate of Yvonne's sales was increasing every month.

24 **Which table does NOT represent a linear function?**

A.

x	y
–2	–5
–1	–2
0	1
1	4
2	7

B.

x	y
–2	–2
–1	–5
0	1
1	4
2	7

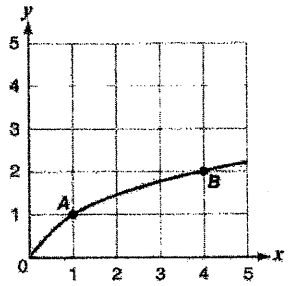
C

x	y
–2	–2
–1	–5
0	–8
1	–11
2	–14

D.

x	y
–2	7
–1	4
0	1
1	–2
2	–5

25 Which statement **best** describes the function below between points A and B?



A. The function is increasing and linear.

B. The function is decreasing and linear.

C The function is increasing and nonlinear.

D. The function is decreasing and nonlinear.