

Taylor County Schools

Day 5

Eighth Grade

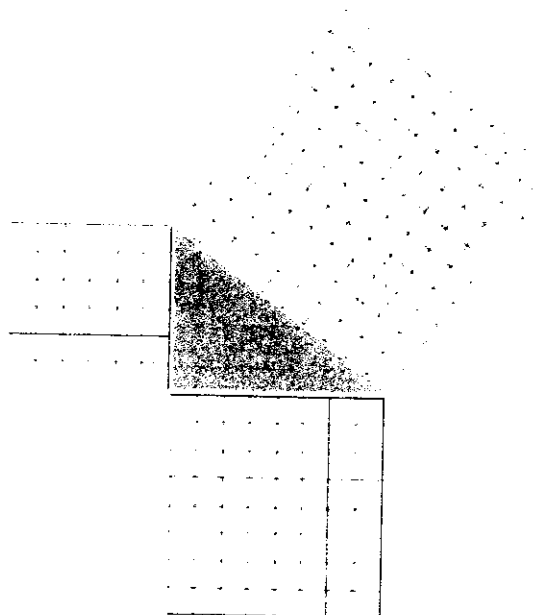


1. Complete this packet on the fifth ICE Day.
2. Write your name on the booklet.
3. Return this completed packet after the ICE Pack Day. You will keep the others in the envelope for future ICE Pack Days.

Name: _____

Student Name: _____ Teacher: _____

1 Look at the graphic.



Which equation is verified by the graphic?

A $\sqrt{6} + \sqrt{8} = \sqrt{10}$

B $6^2 + 8^2 = 10^2$

C $6^2 + 10^2 = 8^2$

D $6 + 8 = 10$

2 Which of these could be the lengths of sides of right triangle *ABC*?

A (5, 6, 11)

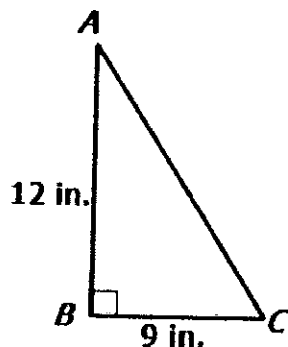
B (5, 7, 12)

C (5, 12, 13)

D (6, 7, 13)

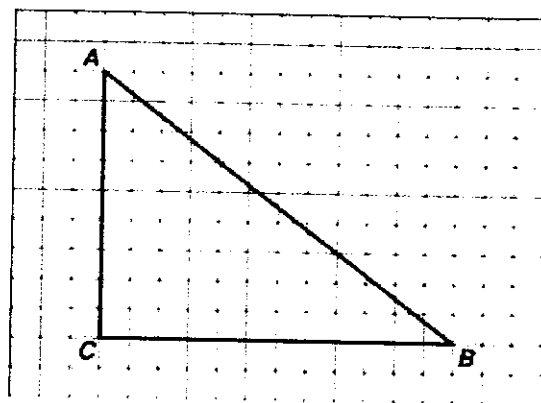
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3 What is the length of \overline{CA} ?



- A 225 in.
- B 63 in.
- C 28 in.
- D 15 in.

4 Triangle ABC is shown on the grid below.



Which value BEST represents the length of \overline{AB} ?

- A 8 units
- B 13 units
- C 15 units
- D 21 units

5 Niki is decorating a rectangular dining table for a party. The length of the table is 8 feet and the width is 6 feet. Niki put a ribbon diagonally across the table. What is the length of the ribbon, in feet?

- A 2
- B 4
- C 10
- D 14

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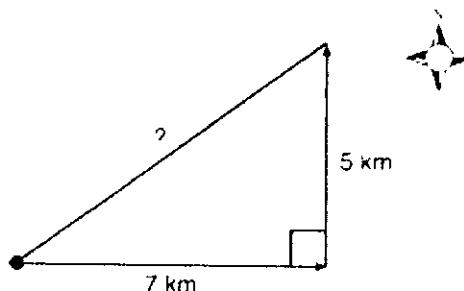
6 The lengths of the legs of a right triangle are 6 yards and 8 yards. What is the length, in yards, of the third side of the triangle?

- A 5
- B 7
- C 10
- D 14

7 Rosemary is cutting 3 wooden sticks to build part of a kite frame. The part she is building must be a right triangle. Which choice below could be the lengths, in inches, of the sticks Rosemary cut?

- A 6, 8, 10
- B 5, 6, 7
- C 2, 3, 5
- D 2, 5, 10

8 Lucas rode his bike for 7 kilometers (km) east and then 5 km north.



How far was Lucas from his starting point?

- A $\sqrt{24}$ km
- B 6 km
- C $\sqrt{74}$ km
- D 12 km

Re-imagine Time Packet – Social Studies 8 Day 5: Date _____

Student Name: _____ Teacher: _____

Compile a list of industries both past and present that have been or are vital to West Virginia's economy.

Student Name: _____ Teacher: _____

Four forces on a rocket

By NASA.gov, adapted by Newsela staff on 12.21.16 Word Count **650** Level **870L**

Studying rockets is a great way to learn how forces work. A force can be thought of as a push or pull in one direction.

Only by applying forces will the motion of an object change. Over 300 years ago, Sir Isaac Newton found a way to describe most kinds of motion. Newton was one of the most important scientists in history. He developed three famous laws, which engineers still use to design and model the flight of rockets.

A force is a vector quantity. This is a type of measurement that refers to both a direction and a magnitude. Magnitude is the measure of how strong the force is.

The Four Forces In Action

In flight, a rocket is affected by four forces: weight, thrust, lift and drag. Lift and drag are also called aerodynamic forces. The word "aerodynamic" comes from the Greek words for air and power.

The magnitude of the weight force depends on the combined mass of all the parts of the rocket. Mass is how much matter is in an object. The weight force is distributed evenly throughout the rocket, but to simplify things we can imagine that it acts on a single point. This imaginary point is known as the center of gravity. In the figure, it is shown as a yellow dot. It tends to be close to where more mass is concentrated.

The weight force is always directed toward the center of Earth, and acts through the center of gravity. It pulls the rocket down toward Earth.

The magnitude of the thrust force depends on how much fuel is being ejected from the rocket, and how quickly and powerfully the fuel is exiting the rocket. The more fuel that is ejected, the larger the force of thrust. Similarly, if fuel is ejected at a higher speed and pressure, this will also increase the thrust. Normally, thrust acts along the length of the rocket. Like weight, it also acts through the center of gravity. Some full scale rockets can move their nozzles, the part of the rocket from which fuel is ejected. Moving the nozzle can change the direction of the thrust force. This can be used to help guide the rocket in a certain direction.

Imaginary Center Of Pressure

The magnitude of the lift and drag forces depends on the shape, size, and speed of the rocket. It also depends on the quality of the atmosphere the rocket is flying through. These aerodynamic forces act through the center of pressure. This is an imaginary point, like the center of gravity. But while the center of gravity is the point where the most mass is concentrated, the center of pressure is where the most pressure is concentrated. It is shown as the black and yellow dot on the figure.

During a rocket flight, the magnitude of the four forces is always changing. Sometimes the direction of the forces changes, too. These forces can either compete against each other or contribute to each other. How they interact determines how the rocket will fly, much like the motion of the rope in a "tug-of-war" contest. If we add up the forces we can figure out the total force on the rocket. Then, using Newton's laws of motion, we can determine how the rocket will fly.

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Comparing An Airplane And Rocket

The same four forces act on a rocket as on an airplane in flight. However, there are some important differences between the two.

On an airplane, the lift force - an upward force - is used to overcome the weight force - a downward force. On a rocket, the thrust force is used to overcome the weight force. On many rockets, lift is used to control the direction of flight.

For an airplane in flight, the magnitude and direction of the forces remain mostly the same. For a rocket, however, they change drastically during a typical flight.

Student Name: _____ Teacher: _____

Quiz

- 1 Select the paragraph from the last two sections of the article that explains HOW specific forces interact.
- 2 Which of the following answer choices BEST describes the structure of the following paragraph from the section "The Four Forces In Action"?

The magnitude of the thrust force depends on how much fuel is being ejected from the rocket, and how quickly and powerfully the fuel is exiting the rocket. The more fuel that is ejected, the larger the force of thrust. Similarly, if fuel is ejected at a higher speed and pressure, this will also increase the thrust. Normally, thrust acts along the length of the rocket. Like weight, it also acts through the center of gravity. Some full scale rockets can move their nozzles, the part of the rocket from which fuel is ejected. Moving the nozzle can change the direction of the thrust force. This can be used to help guide the rocket in a certain direction.

- (A) problem and solution
 - (B) chronological order
 - (C) cause and effect
 - (D) order of importance
- 3 Use the diagram and information from the article to select the statement that is TRUE.
 - (A) Most pressure is located where thrust and weight forces meet.
 - (B) The lift force guides the rocket in a sideways direction.
 - (C) Most of the rocket's mass is concentrated in its lower half.
 - (D) Lift and drag act through a center of pressure on the rocket.
 - 4 Which selection from the article is BEST illustrated by the diagram?
 - (A) The magnitude of the weight force depends on the combined mass of all the parts of the rocket. Mass is how much matter is in an object.
 - (B) The weight force is distributed evenly throughout the rocket, but to simplify things we can imagine that it acts on a single point.
 - (C) The magnitude of the thrust force depends on how much fuel is being ejected from the rocket, and how quickly and powerfully the fuel is exiting the rocket.
 - (D) For an airplane in flight, the magnitude and direction of the forces remain mostly the same. For a rocket, however, they change drastically during a typical flight.

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VERBALS

Functions and Uses of Infinitives

An infinitive is the word *to* combined with the simple, or stem, form of a verb, such as *to sing* or *to read*. An infinitive is rarely used as a verb; instead it is used in a sentence as a noun, adjective, or adverb. When it is used as a noun it functions as a subject, subject complement or direct object.

Example: We all wanted to play.

In the example *to play* is the infinitive. It is functioning as a direct object.

Remember that an infinitive includes a verb and should not be confused with a prepositional phrase starting with the preposition *to*, such as *to the street*.

Circle the infinitives in the sentences below. Write the infinitive's function in the sentence in the blank under the sentence.

1 His goal was to succeed.

2 To refuse was not an option, so we agreed with their demands.

3 My brother likes to sing.

4 The team must score to win.

5 The counselor has the ability to help.


6 Her dog just wanted to play.

7 To laugh seemed rude, but the story was funny.

8 For the dishes tonight, your job is to dry.

Student Name: _____ Teacher: _____

Student Handout #20

<h2 style="text-align: center;">How Do Your Rate Your Day's Food and Drink Choices?</h2> <h3 style="text-align: center;">What Steps Could You Take to Make Smarter Food and Drink Choices?</h3>					
What did you eat and drink today? Write amounts, too.	Food Groups 	Tip (Some foods and drinks such as sodas, cakes, cookies, donuts, ice cream, and candy, are high in fats and sugars. Limit those.)	How many calories do you need daily? Below write your food group goals, based on your day's calorie need. (See handout #9.)	Where do your food and drink choices fit in the food groups?	How much did you consume from each food group?
_____	Fruit	Choose fresh, frozen, canned, and dried fruit more often than juice.	_____ cups	_____	_____ cups (See handout #10.)
_____	Vegetables	Aim for variety every day: dark-green, red and orange, beans and peas,* starchy, and other vegetables.	_____ cups	_____	_____ cups (See handout #12.)
_____	Grain	Make at least half your grains whole grain.	_____ ounce equivalents	_____	_____ ounce equivalents (See handout #14.)
_____	Dairy	Include low-fat and fat-free dairy foods every day.	_____ cups	_____	_____ cups (See handout #16.)
_____	Protein foods	Aim for variety. Choose fish, lean meat and poultry, beans and peas,* nuts and seeds each week.	_____ ounce equivalents	_____	_____ ounce equivalents (See handout #18.)
_____	Physical activity (it's important too!)	Be active every day. Choose activities you like and that fit into your life.	Be physically active for at least 60 minutes a day.	_____	_____ minutes
How did you do today? _____ I can take this step(s) to eat healthier tomorrow. _____ I can take this step(s) to be more physically active tomorrow. _____	Great So-so Not so great				

* When you rate your plate, beans and peas count as either vegetables or protein foods, but not both. It's up to you to decide how to count them. Go online for an interactive way to rate your plate: www.ChooseMyPlate.gov. Then click on "Analyze My Diet."

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Application

AEROBIC AND ANAEROBIC ACTIVITY

A. Read the list of activities below. Circle each activity that features aerobic exercise. Draw a line under each activity that features anaerobic exercise.

- | | | | | |
|-----------------|-------------------|------------|------------------|----------------------|
| aerobic dancing | mountain climbing | golf | boxing | downhill skiing |
| fencing | speed swimming | baseball | speed skating | basketball |
| tumbling | wrestling | karate | horseback riding | scuba diving |
| tennis | weightlifting | ballet | rowing | racquetball |
| swimming | hiking | gymnastics | soccer | bicycling |
| sprinting | jogging | walking | table tennis | cross-country skiing |

B. Answer the following questions.

1. Which activities could be aerobic or anaerobic depending on how you performed them?

2. How does participating in aerobic and anaerobic activities improve cardiovascular fitness?

3. Which type of activity, aerobic or anaerobic, is better for building cardiovascular fitness? Explain.

4. What is the best way to determine if an activity contributes to cardiovascular fitness?

5. Why is it important to develop cardiovascular fitness early in life?

6. Besides exercising regularly, what can you do to maintain cardiovascular fitness?

7. Elaine would like to build cardiovascular fitness. She likes to jog. Use the FIT formula principles to explain how Elaine might best build cardiovascular fitness through jogging.

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7

Reinforcement

COMBINATIONS FOR FITNESS

The sentences below can be completed by combining words and syllables from the box. The number in parentheses after each sentence tells how many words and/or syllables from the box you are to use when completing the sentence. Write the word(s) in the blank.

cardio	anaerobic	system	rate	activity	lipo
respiratory	arteries	activity	proteins	low-	cholesterol
anthero	fibrin	veins	density	proteins	heart
high-	sclerosis	vascular	aerobic	resting	system
heart	proteins	density	more	resting	lipo
cholesterol	lipo	less	system	density	rate

- The number of times the heart beats per minute when a person is inactive is the _____. (3)
- Cholesterol is carried through the bloodstream by particles called _____. (2)
- Moving oxygen and nutrients to body cells and removing cell wastes is the job of the _____. (3)
- Exercising in short, fast bursts is _____. (2)
- Blood is carried from the heart to other parts of the body by _____. (1)
- A fatty substance called _____ is found in meats, dairy products, and egg yolks. (1)
- Excess cholesterol is carried out of the bloodstream by _____ and eliminated. (4)
- Supplying oxygen to and eliminating carbon dioxide from the bloodstream is the job of the _____. (2)
- Your _____ is the number of times your heart beats per minute to pump blood through the body. (2)
- Exercising steadily enough for the heart to supply oxygen needed by the muscles is _____. (2)
- High-density lipoproteins appear to help prevent _____. (2)
- Cholesterol that will probably stay in the bloodstream is carried by _____. (4)
- A substance that is involved in the clotting of blood is _____. (1)
- Blood is carried to the heart from other parts of the body by _____. (1)
- The heart of a fit person beats 9.5 million times _____ each year than that of an average person. (1)

Student Name: _____ Teacher: _____

Music Careers Word Search

by Ms. Garrett

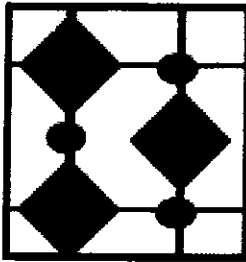
www.musictechteacher.com

B F Y I S O R H Z C X N G S R
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C R V E O R M Z Y T P Z V V N
L L V N M F J P B W C Y X V A
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P R O D U C E R R F E L P R R
T H N R O T A R U C H J P O A
E J R E T A I L E R V A R T R
A G R E S O P M O C L R A C B
C R E E N I G N E N X F I U I
H K L V X R Q Z L K U N S D L
E I E G U C R I T I C C E N T
R A R E N U T O N A I P R O I
Y R E D A E L D N A B F Q C A
R Y E K C O J K S I D K I V Q

LIBRARIAN
LAWYER
RETAILER
CURATOR
BANDLEADER
THERAPIST
COMPOSER
ENGINEER
DISKJOCKEY
CONDUCTOR
TEACHER
CRITIC
PIANOTUNER
SONGWRITER
APPRAISER
PRODUCER

Student Name: _____ Teacher: _____

Pattern Worksheet

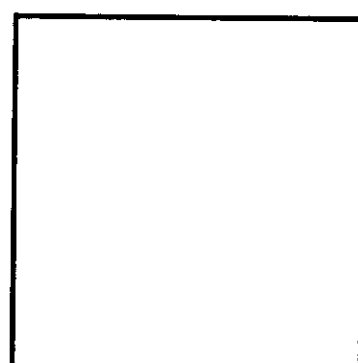
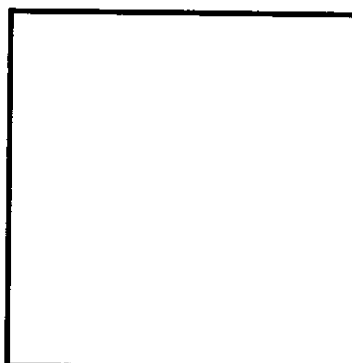
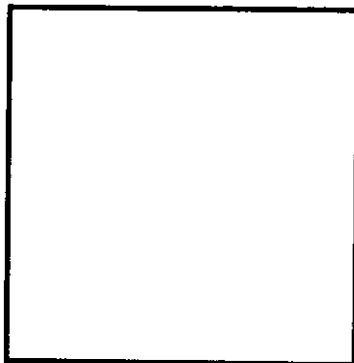
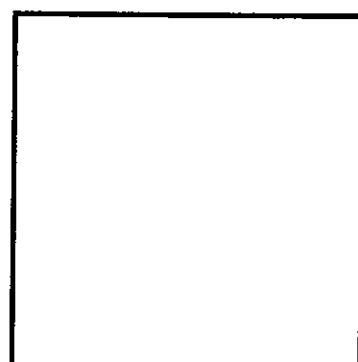
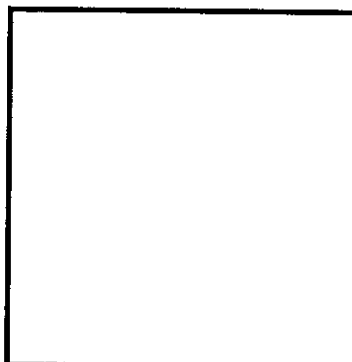
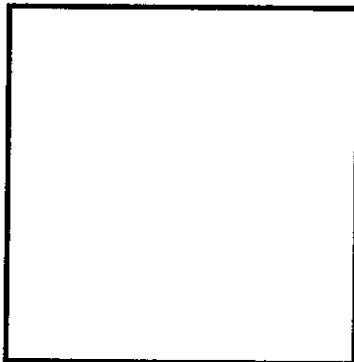
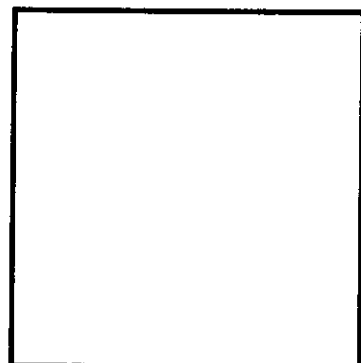
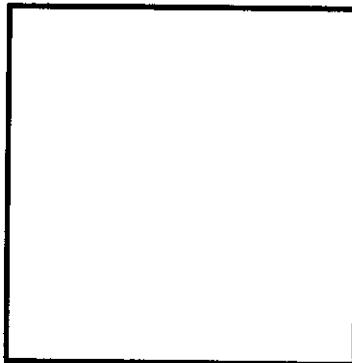
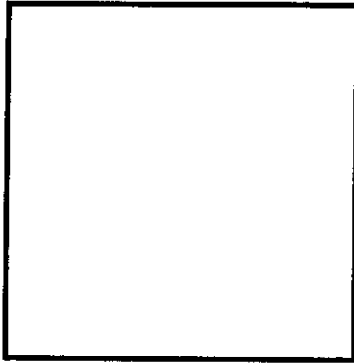


Instructions:

In each box below, use different kinds of lines & simple shapes to draw different creative patterns. Use colored pencils or markers and Sharpies to fill up each square. *Challenge yourself- try patterns within patterns!*

Lines: horizontal, vertical, diagonal, curved, and zig-zag

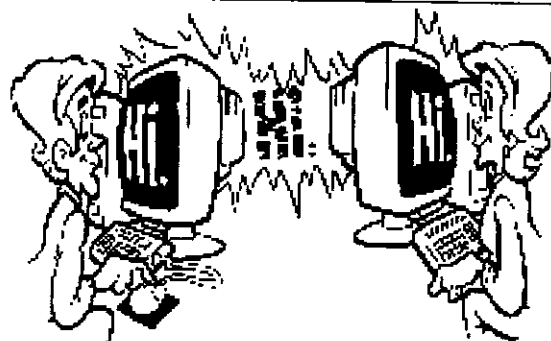
Shapes: geometric (circles, squares, triangles) and free-form or organic



Student Name: _____ Teacher: _____

Read the following text carefully:

INTERNET: friend or foe?



1 As an instructor at one of the top universities in the Asia-Pacific region, I have some really smart students. One of my smartest students ever is in my current essay writing class. Her name is Esther. Last week, the deadline for submission of final assignments for my essay was Friday, and I was surprised and disappointed when, at five p.m., the only student who had not submitted her assignment was Esther. I tried calling her, but she was out.

5 Next morning, I did what most Internet addicts do on first getting up - I checked my e-mail. There was Esther's assignment, sent as an e-mail attachment. Received at 11:59 p.m. She has a great sense of timing. Esther, I used the 'insert comment' function of Microsoft Word to embed extensive comments on her assignment, and, resisting the temptation to mark her down for the anxiety she had caused, gave her a well-deserved 'A'. I returned her assignment electronically, and an hour or so later received a message from her thanking me for the comments and the grade.

10 A student in the same section, although not in the same grade as Esther, also submitted his assignment as an e-mail attachment. This student (let's call him Luke) is considerably weaker than Esther. I was therefore astonished when I opened the e-mail attachment and found an essay far more elegantly crafted than anything Luke had ever produced for me before. It was clear that someone else had written the piece. However, when I confronted Luke, he was adamant - of course it was his own work! He even managed to look hurt at the implication that someone else had written it.

15 I showed the essay to a colleague who immediately recognised it as a piece from the World Wide Web. He downloaded and printed a copy for me which I included, along with the URL, in a message to Luke. Next morning he was outside my office waiting, shamefaced, to apologise.

20 These two stories illustrate two of the ways that the Internet is transforming my teaching. I'm sure that many readers have similar stories. If the Internet has not yet touched you on your teaching, it's a reasonable bet that it will do so in the not too distant future.

25

Source: David Numan, LATEFL ISSUES, vol. 157, October 2000

I

A) Who or what do these words refer to in the text?

- | | |
|--------------|-----------------|
| 1. my (1.2) | 4. which (1.21) |
| 2. her (1.5) | 5. you (1.25) |
| 3. it (1.20) | |

B) Go through the text and find words/ expressions that mean the same as:

1. clever
2. present
3. a date or time before which something must be done or completed
4. surprised