Robert L. Merritt

9th Grade **Math** Pack

Week of June 22-26, 2020

12. **Jeremy has a summer job, where he earns $8 per hour. His employer always rounds up to the nearest quarter of an hour. For example, if Jeremy works 5 hours and 10 minutes, he is paid for 5.25 hours.**

If $f(h)$ is a function that represents the amount Jeremy earns for working h hours, which values are in the domain of f?

Select *ALL* that apply.

A 4.5

B 4.8

C 5.1

D 5.75

E 6.0

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13. Select the phrase which *best* completes the sentence.

On a small volcanic island, lava is flowing at a rate of 800 meters per day and can be modeled by the function $f(d) = 800d$, where $f(d)$ represents the distance from the source of the lava flow, and d represents the day of the flow.

The domain of $f(d)$ in this context is *best* described as _____ .

A all real numbers

B all positive real numbers

C all non-negative integers

D all integers between 0 and 800

14. Albert and Paula purchase a new car for $18,000. The value of the car is expected to decrease with time, as shown by the graph.

What is the domain of the graph?

A all negative real numbers

B all real numbers

C all real numbers between 0 and 18,000

D all real numbers greater than or equal to 0

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15. The equation models the charge, in dollars, for water running from a faucet in a community as a function of the number of gallons, g, used.

$C = 12 + 0.002g$

What is a reasonable domain for this function?

A all real numbers

B only positive integers including zero

C only whole numbers

D all positive real numbers including zero

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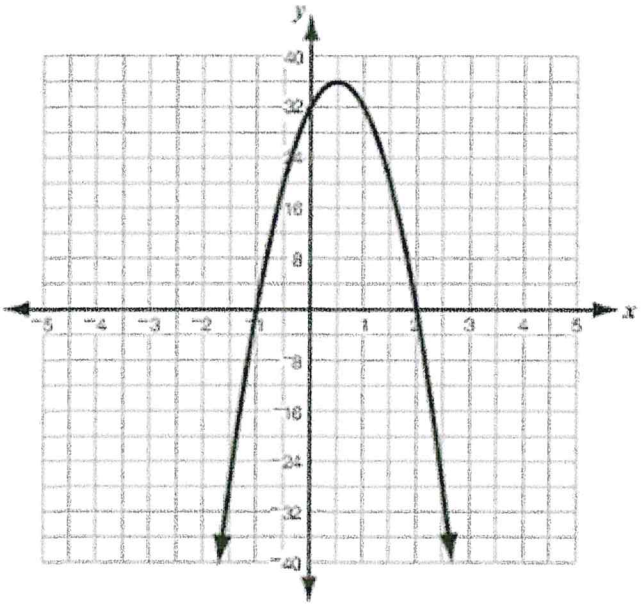
16. Consider the quadratic function.



Which statement is true?

A The domain of the function is all real numbers.

B The domain of the function is all real numbers less than or equal to 36.

C The domain of the function is all real numbers between −2 and 3.

D The domain of the function is all real numbers between −40 and 36.

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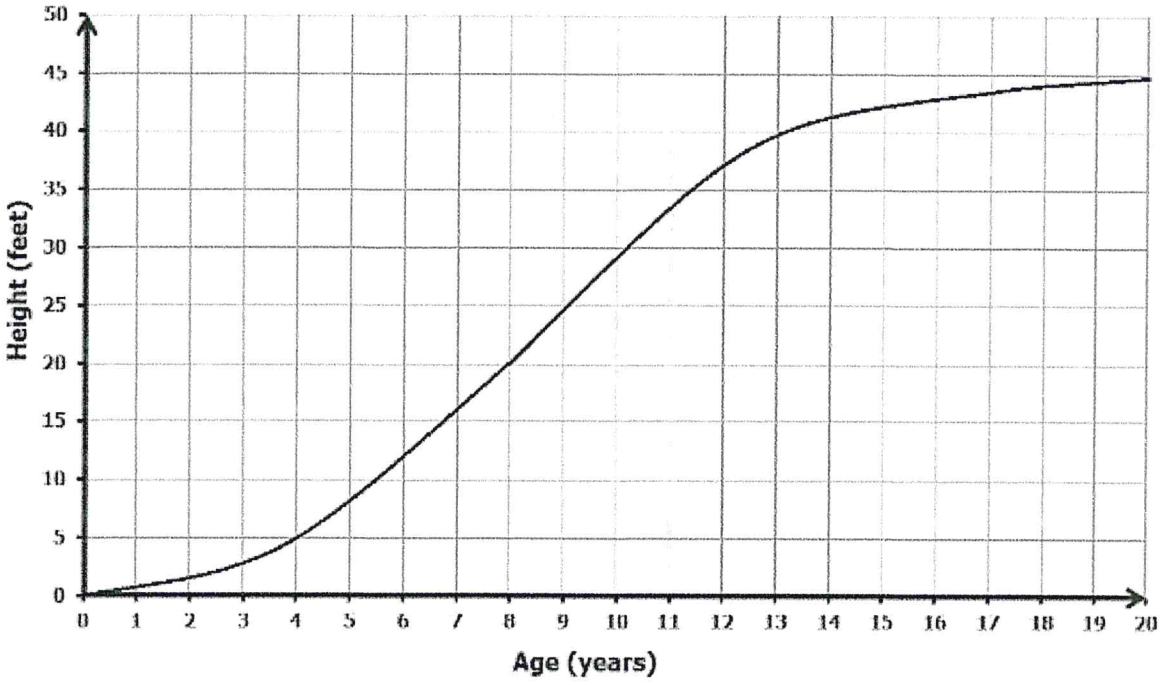
17. Select the phrase which *best* completes the sentence.

Use the information and graph given to answer the question.

The growth of a tree can be represented by the graph shown on the coordinate grid.



The full vigor phase is characterized by a constant rate of growth. The interval which *best* represents this phase is _____ .

A 0 to 4 years

B 4 to 10 years

C 10 to 13 years

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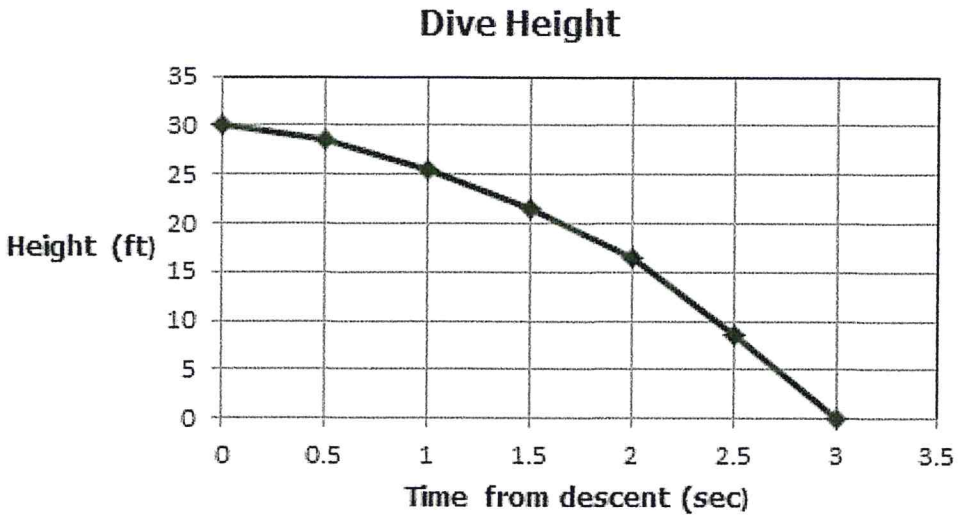
D 13 to 20 years

18. **Maya is on the dive team at Edmond High. She dives from the school's 30-ft platform. Maya's plunge into the pool is modeled by the graph.**



What is Maya's *approximate* average rate of decline between 1 second and 2.5 seconds?

A -5 feet per second

B -9 feet per second

C -12 feet per second

D -17 feet per second

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19. The table shows the number of lemons harvested from a tree every two days.

Day	Number of Lemons
2	18
4	14
6	22
8	16

What is the average rate of change in the number of lemons harvested per day from Day 4 to Day 6?

A 2 lemons per day

B 4 lemons per day

C 8 lemons per day

D 16 lemons per day

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20. **Which equation represents exponential growth?**

A $y = 3(0.25)^{-t}$

B $y = 3(1.25)^{-t}$

C $y = 0.3(0.75)^{3t}$

D $y = 0.3(0.75)^{t/3}$

21. What are the zeros of the function $y = x^2 + 6x + 8$?

A $x = -8, -1$

B $x = -4, -2$

C $x = 2, 4$

D $x = 8, 1$

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22. A teacher writes the function $f(x) = 3x^2 - 18x + 27$ on the board. How many times does the graph of the teacher's function intersect the x-axis?

A 0 times

B 1 time

C 2 times

D 3 times

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Robert L. Merritt

9th Grade **ELA** Pack

Week of June 22-26, 2020

For Questions 1 - 7:

from "Remarks on Signing Alaska National Interest Lands Conservation Act"
by President Jimmy Carter

1. As a nation, we have been blessed with an abundance of natural resources. We've also been blessed with an abundance of natural wonders—from the Grand Canyon to the gates of the Arctic, from the Everglades to Yellowstone—we're only just now learning how to use the one without abusing the other. We must not let the pressures of the day interfere with these efforts to enhance the quality of our lives. We cannot let our eagerness for progress in energy and in technology outstrip our care for our land, for our water and for air, and for the plants and animals that share all of these precious vital resources with us. Every time we dig out minerals or drill wells, every time we ignore erosion or destroy a sand dune or dam a wild river or dump garbage or create pollution, we're changing the living Earth.

2. Sometimes this change might be beneficial, but we should always change the world in which we live with great care. We are affecting the air we breathe and the water we drink. We have nothing more precious than life itself, nothing more valuable to us than health. We must not forfeit these in the pursuit of progress. We must face the fact that these threats to the quality of life will mount inexorably in the years ahead.

3. We've tried to look forward to the year 2000, and we've been very concerned at what we've seen. We must face the fact that these threats to the quality of life will perhaps be the greatest challenges which this Nation must face. None of us can afford to relax our vigilance, and we certainly cannot afford to rely on government

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have at least continued our protection of endangered species. Outside of Alaska, we've made vast additions to our National Park System. We've created new wilderness areas and designated new Wild and Scenic Rivers. We cannot afford to retreat from these efforts now. We cannot afford to look at the immediate financial profits and ignore the long-term costs of misusing the environment.

8. Protecting our environment also brings immediate results to our health and to the development of new technology, new areas of understanding, new knowledge that benefits us all. It brings us some financial costs as well, but these costs, compared to the benefits, are very modest indeed. The price of not protecting the environment would be far greater and far more lasting. Much of the damage cannot possibly be repaired at any price. We protect it today, or we lose it for all time.

9. In tackling our challenges—the problems of hazardous waste disposal and eroding beaches, extinction of plant and animal species, and human overpopulation—we have our forebears to emulate. When they came to these shores they faced challenges beyond any they had known previously, and they had to think and they had to fight their way through: Their success is our legacy now. Their triumphs and their mistakes have much to teach us.

10. We've learned the hard way, in some cases, that we cannot, without consequence, take from the land without giving. We've learned, too, that what we need as we enter the 1980's is the same thing the pioneers had when they first entered the wilderness of this country —determination, courage, daring.

11. We were determined to preserve portions of Alaska. Fifty-six million acres of that State can now stand pristine. We dared to act with foresight, instead of hindsight, and with an understanding that

Excerpt from "Remarks on Signing Alaska National Interest Lands Conservation Act" by President Jimmy Carter. http://www.presidency.ucsb.edu/ws/?pid=45539 (11/23/15).

2. **Read this excerpt from paragraph 6.**

> We have made some progress. It has not been easy. Human greed is not an easy foe to conquer.

What impact does the figurative language have on the passage?

A It emphasizes the author's commitment to a long and difficult task.

B It highlights the author's pride in what he has single-handedly accomplished.

C It reveals the author's exasperation with the pace in which change is occurring.

D It shows the author's resignation that some problems are simply unresolvable.

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4. How does the comparison to pioneers in paragraph 10 advance the author's purpose?

A by describing the benefits of discovery

B by emphasizing the importance of perseverance

C by expressing the problems of the future

D by highlighting the mistakes of the past

6. **Part B**

How does the comparison to pioneers in paragraph 10 advance the author's purpose?

A by describing the benefits of discovery

B by emphasizing the importance of perseverance

C by expressing the problems of the future

D by highlighting the mistakes of the past

Robert L. Merritt

9th Grade **Science** Pack

Week of June 22-26, 2020

13. What process is important for creating genetic variability among organisms that reproduce primarily by asexual means?

A crossing over

B fertilization

C meiosis

D mutation

14. The table lists two genetic disorders and their causes.

Genetic Disorder	Cause
cystic fibrosis	loss of three nucleotide bases from chromosome 7
Prader-Willi syndrome	loss of seven genes on chromosome 15

Which mutation is responsible for the listed disorders?

A A deletion mutation is responsible for both the disorders.

B A substitution mutation is responsible for both the disorders.

C A deletion mutation is responsible for cystic fibrosis, while a substitution mutation is responsible for Prader-Willi syndrome.

D A substitution mutation is responsible for cystic fibrosis, while a deletion mutation is responsible for Prader-Willi syndrome.

15. The nucleotide sequence in a DNA strand and the coded amino acid sequence in the protein produced are shown in the table.

DNA sequence	TACATA**AGA**TGCGTT
protein sequence	Met-Tyr-Ser-Thr-Gln

What would be the sequence of the protein produced if the nucleotides indicated with a box in the DNA strand undergo a deletion mutation during DNA replication?

A Met-Tyr-Thr-Ser

B Met-Ser-Thr-Gln

C Met-Tyr-Ser-Thr

D Met-Tyr-Thr-Gln

16. The phrase "the cat sat and the dog ran" is being used to represent a DNA sequence.

Which altered phrase would represent a frameshift mutation?

A the sat and the dog ran

B the cat saa ndt hed ogr an

C the dog sat and the cat ran

D the cat sat cat sat and the dog ran

17. **Yeast are facultative anaerobes, which means that they are capable of performing both aerobic and anaerobic respiration depending on their environmental conditions. A team of biology students reads that the alcoholic fermentation of yeast produces bubbles of carbon dioxide which cause bread to rise while baking. The students want to measure the rate of carbon dioxide production by a sample of yeast in a large test tube in their high school laboratory. They are able to insert a digital CO_2 sensor into the test tube. The sensor is connected to a computer, enabling the students to record their data automatically. They plan to take readings every 30 seconds for an hour.**

What is one important parameter that the students must consider when developing their procedure to get accurate results?

A The students must add a photosynthetic organism, like algae, to the sample of yeast.

B The students must be careful to keep yeast in the dark and never exposed to direct sunlight.

C The students must be certain that there is little to no oxygen present in the test tube.

D The students must ensure that the test tube is exposed to direct sunlight.

18. When athletes run long distances, their muscles become fatigued due to a lack of oxygen. Which process helps athletes generate more energy to continue running?

A aerobic respiration

B anaerobic respiration

C chemosynthesis

D photosynthesis

19. Which situation will *most likely* cause increased production of lactic acid in cells?

A eating a large meal

B lifting a heavy object

C running for several hours

D sitting still for a long period of time

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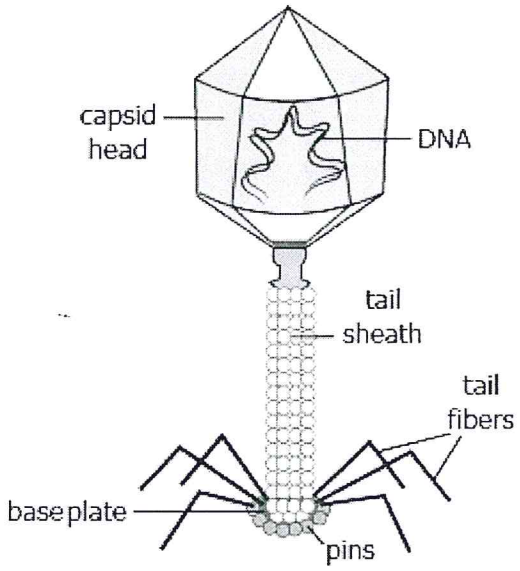
20. The image shows the structure of a typical virus.



On the basis of the structure, which statement justifies that viruses are nonliving?

A Viruses lack cell organelles.

B Viruses lack genetic material.

C Viruses lack structures for movement.

D Viruses lack membranes around their DNA.

21. Research provides evidence that the HIV virus requires a host to carry out its metabolic activities. Which evidence supports that the HIV virus is nonliving?

A It has complicated DNA.

B It has complicated structures.

C It lacks food-producing or energy-producing cell organelles.

D It lacks the genetic material needed to create more viruses.

22. Read the statement from a scientific researcher.

Many organisms depend on other organisms to live, such as bacteria that live inside cells, and fungi that form parasitic relationships. These organisms are reliant on their hosts to complete their life cycles. Viruses also rely on host cells in a similar manner.

Which argument about viruses is supported by the researcher's statement?

A Viruses create new host cells.

B Viruses respond to their environments.

C Viruses are nonliving.

D Viruses are living.

***** This Item Has Been Omitted by the Item Bank Vendor *****

23. A scientist lists some characteristics of a virus in a chart.

1. It is smaller than a bacterium.
2. It can infect eukaryotic organisms.
3. It contains DNA enclosed within a protein coat.
4. It cannot perform metabolic functions on its own.

Which characteristic supports the claim that a virus is a non-living particle?

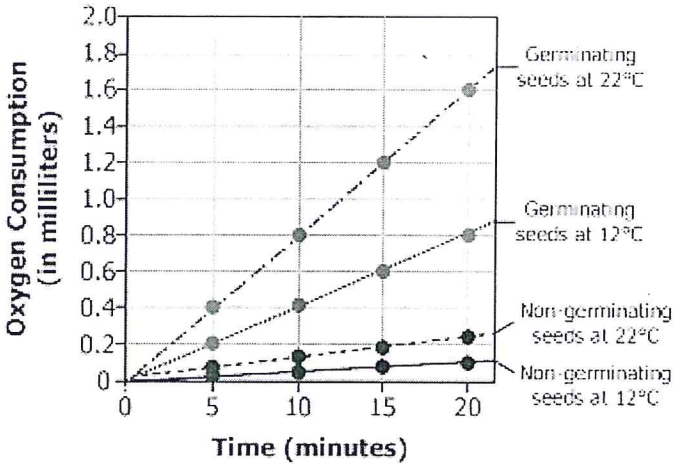
A 1

B 2

C 3

D 4

24. A scientist performed an experiment to test the hypothesis that the rate of oxygen consumption in germinating seeds is greater when the temperature is higher. The scientist grew bean seeds at different temperatures and measured the amount of oxygen consumed by each group of germinating seeds. The graph shows the data obtained.



What can be concluded from the data obtained?

A The hypothesis is refuted as all the seeds growing at different temperatures consumed oxygen.

B The hypothesis is verified as the germinating seeds consumed more oxygen at a higher temperature.

C The hypothesis is verified as the non-germinating seeds consumed less oxygen at a lower temperature.

D The hypothesis is refuted as the seeds did not consume the same amounts of oxygen at different temperatures.

Name_____Date_____Class Period_____

Fitness Daily Exercise Work-Outs

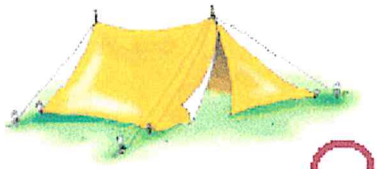
Abdominal workout **25 Pts_____**

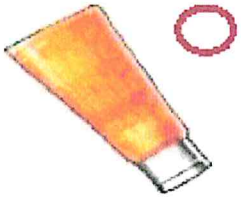
- AB crunches
- Flutter kicks
- Hands to toes
- Opposite arm raise
- The climb up
- The single leg stretch

- **LOWER BODY WORKOUT** **25Pts_____**
  - Leg lunges
  - Squats
  - High knees
  - Wall jumps
- **Upper BODY WORKOUT** **25Pts_____**
  - Pushups
  - Dips
  - Bicep curl (resistance band)
  - Resistant band shoulder workouts
  - Diamond pushup
- **CARDIO WORKOUT** **25Pts_____**
  - Sprints
  - Suicides
  - Green light, Yellow light, Red light

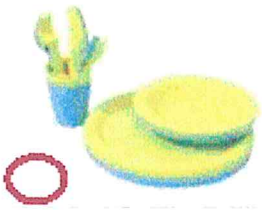
CAMPING

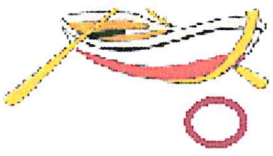
At the bottom of the page is a list of words. These words are hidden in the puzzle. The words have been placed horizontally, vertically, or diagonally - frontwards or backwards. When you locate a word, draw a circle around it.





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





1. insect repellent
2. tent
3. first aid kit
4. backpack
5. bike
6. lantern
7. picnic table
8. cap

TAKE A HIKE!

9. sleeping bag
10. compass
11. boat
12. suntan lotion
13. camping stove
14. picnic set
15. ice cooler
16. rope