NAFS Practice Test (1)
subjects (English - Science – Math) for Grade 9
School Year 2023-2024

Student name: _____

Seat number: _____ **Room number:** _____

Date: _____ **Day:** _____

Year: _____ **Grade:** _____

Subject	Score (Figure)	Score (Written)	Checked by:	**Signature**	Rechecked by:	**Signature**
English	**10**					
Science	**10**					
Math	**10**					
Total						

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LIVEWORKSHEETS

NAFS PRACTICE TEST 1
GRADE 9

READING

Lighthouses have a bright light that warns ships and boats about getting too close to dangerous areas. At one time, lighthouses were the only means for alerting ships about dangerous places. Today, lighthouses are not necessary because ships have radar and depth finders. Some ships also use messages from the Global Positioning System (GPS) to provide information about exactly where the ship is on a map. If the GPS message shows the ship in a particular location, the ship is within 10 to 20 feet of where the message indicates it is. ❶

The early lighthouses were designed so that they were about 40 miles apart. The light from one lighthouse cannot be seen for more than about 20 miles because Earth is curved, but the light travels in a straight line. If a ship is 20 miles down the coast from one lighthouse, the ship's captain can probably see the light from the next lighthouse. If the engineers who built lighthouses made them taller, the light would be visible from a greater distance. The problem with making them taller is that fog is common along a coast line. Often there are low clouds not more than 100 feet above the ocean. If the light from a lighthouse came from much more than 100 feet above the ocean, it would often be in the clouds, and the light would not be visible to ships. In some places, lighthouses are only about 30 feet tall. A short lighthouse tells you there are frequent fogs in the area. ❷

The most powerful lenses for lighthouses were built in France and were designed by a man named Fresnel. The Fresnel lens has a very complicated design. It has columns of glass with fins on them. A lighthouse in Oregon had one of the largest Fresnel lenses ever built. This lens, which was over six feet tall, was damaged by vandals in the 1990s. Several experts in glass and lenses decided to make replacements for the columns that were damaged. They worked for three years on this project. Even though they had equipment and technology far more advanced than Fresnel had, they could not make parts as good as those of the original lens. ❸

Read each question then find the word from the text above according to the specified paragraph number.

1 Which word from paragraph 1 refers to the distance from the surface to the bottom of a body of water or a deep point below the surface?

A	depth	B	location	C	dangerous	D	radar

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2	Which term from paragraph 2 describes the land near the ocean or a large body of water, often characterized by beaches, cliffs, or other geological features?							
	A	distance	B	lighthouse	C	coast	D	area

3	Which word from paragraph 3 best describes individuals who possess specialized knowledge, skills, or expertise in a particular field or subject?							
	A	Fresnel.	B	experts	C	columns	D	powerful

4	**Read each question and choose the best answer.** Why are lighthouses located where they are?							
	A	To provide a scenic view for tourists.	B	To mark the locations of hidden treasures.	C	To warn ships and boats about dangerous areas.	D	To serve as a point of reference for fishermen.

5	Why are lighthouses not necessary today?							
	A	Because they are too expensive to maintain.	B	Because modern ships rely on radar and depth finders only.	C	Because they have become obsolete due to advancements in GPS technology.	D	Because they are ineffective in providing accurate navigation guidance.

6	What does GPS stand for?							
	A	Geographic Positioning System	B	Global Positioning System	C	Geographical Positioning Service	D	Global Positioning Service

7	Why can't the light from a lighthouse be seen for more than 20 miles?							
	A	Because the light is obstructed by fog.	B	Because the light is not powerful enough.	C	Because the lighthouse is not tall enough.	D	Because the Earth is curved, but light travels in a straight line.

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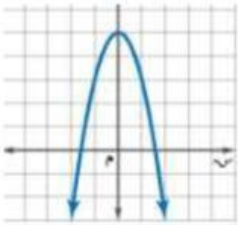
8	Why aren't lighthouses taller than they are so they could be seen from farther distances?							
	A	Because taller lighthouses would be more expensive to construct	B	Because taller lighthouses would require more maintenance.	C	Because the light would often be in clouds and would not be visible to ships.	D	Because taller lighthouses would be more susceptible to damage from strong winds.

9	What do you know about an area that has a very short lighthouse tower?							
	A	.The area is known for its clear skies and low humidity.	B	The area frequently experiences heavy rainfall.	C	The area often has fog.	D	The area is located in a desert region.

10	What is the name of the most powerful lighthouse lens?							
	A	Bellows lens	B	Convex lens	C	Fresnel	D	Prism lens

11	**Calculate the exact answer: -2.1 + (-3.33) + 2.01**							
	A	-3.24	B	7.44	C	-3.42	D	3.33

12	 **The equation of the axis of symmetry for the adjacent graph is**							
	A	X = 0	B	S = 1	C	S = 3	D	R = 0

13	**Y - intercept of the function y = (x - 1) 2 + 5 = _____**							
	A	5	B	6	C	4	D	1

Math

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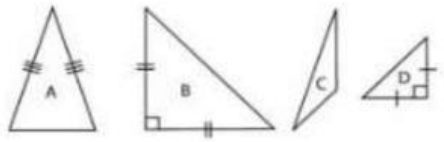
14	**Choose the correct value of (x + y)(x - y) when x = 3.5 and y = -8.7**							
	A	-63.44	B	148.84	C	10.4	D	24.4

15	**Evaluate** $(-8)^3$.							
	A	512	B	-512	C	24	D	-24

16	**Simplify** $(7^2)(7^9) \div (7^2)^4 (7^3)$							
	A	7^22	B	7^0	C	7^1	D	7^6

17	**What is the missing number in** $\sqrt{\square} = 4.3?$							
	A	18.46	B	18.48	C	18.47	D	18.49

18	**Evaluate** $\sqrt{\frac{225}{324}}$							
	A	18/15	B	225/324	C	15/18	D	75/108

19	**Which two triangles are similar?** 							
	A	A and B	B	A and C	C	B and C	D	B and D

20	**A square with side lengths of 15 cm is reduced by a scale factor of 0.8. Determine the side lengths of the new square.**							
	A	4 cm	B	8 cm	C	12 cm	D	18.75 cm

SCIENCE

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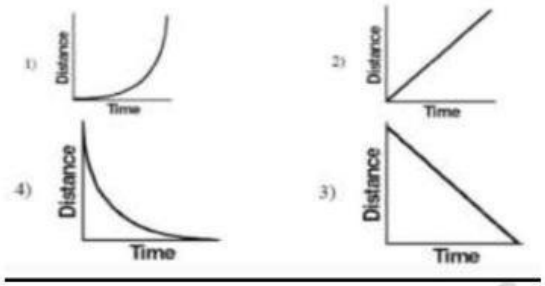
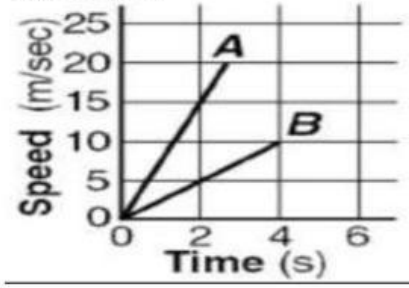
21	**If an object moves in a circular path and returns to its starting point, what can we say about its displacement and distance?**							
	A	The displacement is zero, and the distance is zero	B	The displacement is zero, but the distance is greater than zero.	C	The displacement is nonzero, and the distance is greater than zero.	D	The displacement is greater than zero, but the distance is zero.

22	**If an object, after traveling a certain distance returns to the starting point, what will be its displacement?**							
	A	one	B	zero	C	more than one D	D	less than one

23	**Which graph best represents the motion of an object whose speed is increasing?** 							
	A	Graph 1	B	Graph 2	C	Graph 3	D	Graph 4

24	**Before the fuse is lit, the total weight of a model rocket including fuel is 0.7 N. The gravitational field strength is 10 N/kg.** **The total mass of the model rocket including fuel is:**							
	A	0.007 kg.	B	0.07 kg	C	0.7 kg	D	7 kg

25	**The graph on the right shows the relationship between speed and time for two objects, A and B. Compared with the acceleration of object B, the acceleration of object A is** 							
	A	Three times as great	B	The same	C	One-third as great	D	Twice as great

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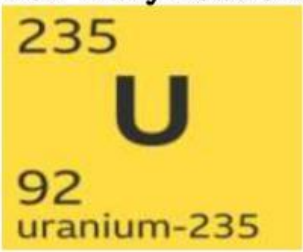
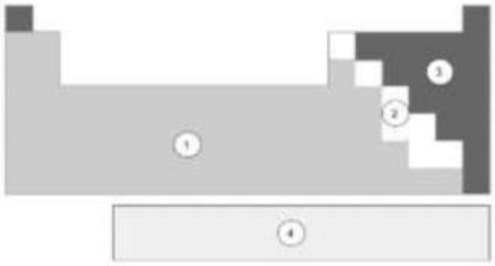
26	**How many neutrons does an atom of uranium-235 contain?** 							
	A	92	B	143	C	235	D	327

27	**Which subatomic particles are responsible for the mass of an atom?**							
	A	Protons and neutrons	B	Electrons and protons	C	Electrons only	D	Neutrons and electrons

28	**Which subatomic particles are responsible for the charge of an atom?**							
	A	Protons and neutrons	B	Electrons and protons	C	Electrons only	D	Neutrons and electrons

29	**A simplified version of the Periodic Table of the Elements is provided. In which location are the nonmetals found?** 							
	A	Location 1	B	Location 2	C	Location 3	D	Location 3

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30	**Molybdenum has an atomic number of 42. This means that Molybdenum _____**							
	A	has a freezing point of 42 degrees	B	belongs to group 42 on the periodic table.	C	can form 42 bonds with other atoms.	D	contains 42 protons in its nucleus.

END OF THE TEST

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