



Name _____

Date _____

“Ex – SPAN – D” Your Math By Traveling Over the Chesapeake Bay!

Every year, millions of people use one of two bridge systems to travel over the Chesapeake Bay. The William Preston Lane Jr. Memorial Bridge spans the Bay just outside of Annapolis, Maryland. Another engineering marvel, the Chesapeake Bay Bridge – Tunnel allows people to cross the Bay near Virginia Beach, Virginia. This elaborate system takes people both over and the brackish water of the Bay.

By solving these math problems you will learn more about this magnificent wonders that are an essential part of today's life along the Chesapeake Bay.

1. The Chesapeake Bay Bridge – Tunnel System has been named an Outstanding Civil Engineering Achievement, and this is well-deserved! Traveling along the 17.6 miles of roadway means you will drive above and dip below the water. Most of your travel time along these 89,760 feet of steel and concrete will be spent above the water, but two mile long segments of road are sunk below the water. This lets big ships pass.

A. How many miles of road are above the water? _____

B. If the Golden Gate Bridge in San Francisco is 8981 feet long, how much longer is the Chesapeake Bay Bridge – Tunnel System? _____

C. What mathematical operation did you use to solve these two problems?
_____? What key words in the question told you that this was the correct operation to use? _____

2. As you can imagine, building a structure like this took a lot of time and money. Construction began in September of 1960. The bridge and tunnels opened for traffic in April of 1964 at a cost of \$200,000,000. Years later, it was decided that another span needed to be built. The older span would serve northbound cars while the new span would allow cars to travel south. Construction on the new system began in June of 1995. Traffic began flowing over it in April of 1999. This span cost \$250,000,000 to build.

A. Which span took longer to build? _____

B. How many more months did it take to build this span? _____

C. Explain how you figured out the answer to the above question. Use the box on the next page.

Write your explanation here:

Think like a math teacher:

What other math question could you ask based on the information?

3. Summer traffic back-ups along the William Preston Lane, Jr. Bridge are a part of life as visitors flock from the Baltimore/Washington area to vacation spots along the Atlantic Ocean. In 2001, nearly 24 million vehicles crossed over the Bay using this bridge.

A. If each car paid \$2.50 to use the bridge, how much money was paid in 2001? (Do not write words. Use only numerals!)

B. What mathematical operation did you use to arrive at your answer? _____

4. Just like the Chesapeake Bay Bridge – Tunnel, the William Preston Lane, Jr. Bridge was built in two phases. One span, with two lanes was completed in July of 1952 at a cost of 44 million dollars. When too much traffic clogged the bridge, it was decided to build another span. The old bridge handles the eastbound traffic while the new three-lane span, opened in June of 1973, allows people to travel west. This span cost about 117 million dollars to build!

A. How much more did the westbound span cost to build than the eastbound span? (Use only numerals to state your answer. Words are not allowed!) _____

B. How many months passed between the opening of the first span and second span?

5. Many people just call the William Preston Lane, Jr. Bridge, the Bay Bridge. They don't know that it was named after a governor of Maryland. But they do know about the famous walks and runs that are held on these 4.2 miles high above the Chesapeake Bay. On the first Sunday in May, the eastbound span is opened for an early morning run. When the runners are safely on the other side, people are then invited to walk over the bridge. This gives many folks an opportunity to gaze at the beautiful Bay waters below. The weather is usually warm so the waters are filled with the white sails of the many boats that grace these waters.

A. If someone could run a ten-minute mile, how many minutes would she need to cross the bridge? _____

BONUS - If you walked at a pace of twenty miles and hour, how long would it take you to cross the bridge? _____