

Sum up the News – January 9th, 2017

Vocabulary

1. $F(x)$ is a polynomial function and $F(5) = 7$. Which of the following expressions is NOT a factor of $F(x)$?

- A. $x - 5$
- B. $x + 5$
- C. $x - 7$
- D. $x + 7$

2. The three vertices of triangle FGH lie on the same circle. $\overline{FG} = 6$ units and $\overline{GH} = 2$ units. If $\overline{FG}$ and $\overline{GH}$ are perpendicular, then what is the area of the circle?

- A. 5π sq. units
- B. 10π sq. units
- C. 20π sq. units
- D. 40π sq. units

3. The surface area, S , of a sphere with radius R is given by the formula $S = 4\pi R^2$. If the sphere is split evenly into two hemispheres, how would the total surface area change?

- A. It would decrease by 25%
- B. It would not change.
- C. It would increase by 50%.
- D. It would increase by 100%.

Based on the article “The Spheres” on page A1 of the Tuesday, January 3rd, Seattle Times.

4. Amazon’s is continuing to build their Spheres project in downtown Seattle, three interconnected domes of glass and metal that will house thousands of plants. The central sphere of the three is the largest, with a diameter of 130 ft. The sphere reaches just 90 feet high as the spheres intersect the ground, creating circular ground floors. What is the area of the circular base of the larger sphere?

- A. $3,025\pi$ square feet
- B. $3,600\pi$ square feet
- C. $3,969\pi$ square feet
- D. $4,225\pi$ square feet

5. A 60-foot high living wall will be installed inside the central sphere. The pieces of the rectangular wall are being grown elsewhere on 520 panels. If each of the panels is an 18-inch by 30-inch rectangle, how wide will the living wall be?

- A. 32.5 feet wide
- B. 47.0 feet wide
- C. 162.5 feet wide
- D. 390 feet wide

6. The square footage that the spheres cover on the ground is determined by the areas of their circular bases. The two smaller spheres have each diameters that are 80% that of the larger sphere and have proportional heights. What is the total square footage of ground that the three spheres cover?

- A. 19,000 square feet
- B. 26,000 square feet
- C. 29,000 square feet
- D. 34,000 square feet

Based on the article “Bright spot in Puget Sound” on page A1 of the Wednesday, January 4th, Seattle Times.

7. Eelgrass beds provide critical habits for species across the Puget Sound. Decades worth of data was recently unearthed which has allowed scientists to measure how the eelgrass beds increased or decreased in size at various sites around the Sound. They found a weak negative correlation between population density in an area and the size of the eelgrass beds there. The scientists were surprised that even as the region's population has grown, the size of the eelgrass beds have remained mostly stable overall. Given the correlation, if the population density of an area decreased what could be said about eelgrass beds nearby?

- A. The amount of eelgrass in the area would likely increase.
- B. The amount of eelgrass in the area would likely decrease.
- C. The amount of eelgrass in the area would definitely increase.
- D. The amount of eelgrass in the area would definitely decrease.

8. Examine the graphs titled “Eelgrass area holds steady” on page A9. Which area had greatest absolute decrease in the size of the eelgrass beds nearby?

- A. Cherry Point
- B. Discovery Bay
- C. Fidalgo Bay
- D. Point Gamble

9. Examine the graphs titled “Eelgrass area holds steady” on page A9. The Port Susan area did not start being monitored until 1983. If there were 230 hectares of eelgrass at the Port Susan in 2015, how many were there in 1983?

- A. 32 hectares
- B. 116 hectares
- C. 144 hectares
- D. 162 hectares

Based on the article “A modest increase: that’s the ticket” on page C2 of the Wednesday, January 4th, Seattle Times.

10. The average asking price for tickets to the Seahawks playoff game against the Lions was \$413, 16% more than their regular season average. Asking prices for tickets for the upcoming game that the Dallas Cowboys will host are \$694 on average, a 62.5% increase over their regular season average. If the Seahawks regular season prices were 40% more than the league average, how higher than league average were Cowboys tickets prices during the regular season?

- A. \$47 more
- B. \$78 more
- C. \$145 more
- D. \$173 more

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