Sum up the News – April 4th, 2016

Vocabulary

1. The graph of a function is even, so that the y-axis is a line of symmetry for the graph of the function. Which of the following could NOT be the function?

A. $f(x) = 2x$

B. $f(x) = 3x^2$

C. $f(x) = 2|x| + 5$

D. $f(x) = 7x^4$

2. A triangle is formed on the coordinate plane by the equation $y = -|x – 2|+ 8$ and the x-axis. What is the area of the triangle?

A. 48 square units

B. 64 square units

C. 96 square unite

D. 128 square units

3. A solid cylinder is cut in half, through its circular faces. The resulting solid is a prism *h* units tall with semicircles for its parallel faces. If the diameter of the two semicircles is 16 units, what is the surface area of the solid?

A. $(72\pi + 16h)$ sq. units

B. $(64\pi + 8\pi h)$ sq. units

C. $(64\pi + 8\pi h+ 16h)$ sq. units

D. $(128\pi + 8\pi h+ 16h)$ sq. units

Based on the article "Ash cloud from Alaska volcano grounds flights" on page A5 of the Tuesday, March 29th, Seattle Times.

4. About 4pm on Sunday, the Pavlof Volcano erupted on the Alaskan Peninsula. Initially the ash cloud that escaped from the 8,261 foot-high volcano reached 20,000 feet in the air. By 7am the next morning, the cloud had reached an altitude of 37,000 feet. At what average speed did the ash cloud rise from 4pm to the next morning?

A. 12 feet per minute

B. 16 feet per minute

C. 19 feet per minute

D. 23 feet per minute

5. The volcano lies 625 miles southwest of Anchorage. By 7am on the morning of the next day, the cloud had followed the wind and now stretched out 400 miles to the northeast. If the ash cloud had been heading directly for Anchorage, at approximately what time would it have reached the city the next day?

A. 2:30 pm

B. 3:00 pm

C. 3:30 pm

D. 4:00 pm

6. The volcano has a diameter of 4.4 miles and is a near perfect cone, which indicates that its frequent eruptions have been able to easily escape out of its peak without blasting away large chunks of the mountain from below. What is the volume of the volcano in cubic miles?

A. 2.5 cubic miles

B. 5 cubic miles

C. 7.5 cubic miles

D. 10 cubic miles

7. The slope from the base of the volcano to its peak is a smooth ramp with a roughly constant slope. Suppose that the volcano's slope is steep enough that most hikers could maintain a speed of approximately 1.5 miles per hour. How long would it take a typical hiker to hike from the base of the volcano to its summit?

A. 1 hours 10 minutes

B. 1 hours 50 minutes

C. 2 hours 10 minutes

D. 2 hours 30 minutes

Based on the article "Medicare's rising drug bill" on page A14 of the Wednesday, March 30th, Seattle Times.

8. Examine the graph titled "Medicare drug benefit spending" on page A14. If Medicare drug spending continued at its annual average increase from 2010 through 2014, then what amount of drug spending would there be in 2020?

A. $102 billion

B. $110 billion

C. $128 billion

D. $140 billion

9. Number of Americans eligible for Medicare = 48.9 in 2010, 55.5 million in 2015. Based on the predictions for 2015's Medicare drug spending, by what percentage has the average Medicare recipient annual drug cost increased since 2010?

A. 31%

B. 41%

C. 48%

D. 59%

10. From the time when the Medicare drug benefit plans were enacted in 2006, spending increases averaged just 1.5% annually through 2012. But in 2014, spending increased by 13% and further regular increases averaging 6% per year are expected. Based on the graph, how much was spent on Medicare's drug benefits in 2006?

A. $46 billion

B. $53 billion

C. $57 billion

D. $61 billion

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