

## Sum up the News – November 1st, 2016

### Vocabulary

1. A ball is located at (5, 0) on the coordinate plane measured in meters. The ball moves along the line  $y = -3(x - 5)$  at a constant speed and takes 6 seconds to reach the  $y =$  axis. How fast is the ball travelling?

- A. 2.6 meters / second
- B. 2.9 meters / second
- C. 3.3 meters / second
- D. 4.0 meters / second

2.  $X$  is a positive integer and  $x^m * x^n = x$ . If  $m = 3n$ , then which of the following statements could be true?

- A.  $m = -n$
- B.  $m = \frac{1}{4}$
- C.  $n = \frac{1}{3}$
- D.  $m - n = \frac{1}{2}$

3. If two sides of a triangle are perpendicular to each other, then the angles facing those sides will be \_\_\_\_\_ angles.

- A. complementary
- B. congruent
- C. vertical
- D. supplementary

**Based on the article “China’s deserts grow into vast sea of sand” on page A4 of the Monday, October 24<sup>th</sup>, Seattle Times.**

4. As of 2015, China had 21,000 more square miles of desert than it had in 1975. Over the past 8 years, the total area of desert in China has increased by 1,350 square miles each year. On average, how many square miles of desert were created each year between 1975 and 2007?

- A. 320 sq. miles per year
- B. 380 sq. miles per year
- C. 440 sq. miles per year
- D. 530 sq. miles per year

5. China has a total area of 3.7 million square miles and 20% of that land is currently desert. Assume that the current rate of increase in desert area continues. In approximately how many years will one quarter of China’s total land area be desert?

- A. 140 years
- B. 230 years
- C. 550 years
- D. 690 years

6. In a sparsely populated prefecture of China near Mongolia called Alxa League, 30,000 people have been displaced over 5 years by the encroaching desert. The province has a total area of 100,000 sq. miles and a population density of just 2.3 people per square mile. The population density across all of China is 45 people per square mile. If the desert continues to expand at its current rate into regions of China with typical population densities, and if displaced people are directly proportional to the population density of the area, then how many people would be ecological refugees each year?

- A. 410 refugees per year
- B. 1,600 refugees per year
- C. 7,900 refugees per year
- D. 120,000 refugees per year

**Based on the article “State health-insurance rates to jump” on page A1 of the Thursday, October 27<sup>th</sup>, Seattle Times.**

7. Health insurance plans across the country are increasing in cost. Nationally premiums are increasing by an average of 25%, but in Washington State the plans will increase by an average of just 13.6%. For plans offered through the state health exchange, the increase will be even lower, at just 8%. The average monthly premium for plans offered through the exchange was \$346 last year. How much will the average annual premium increase be this year?

- A. \$27 more per year
- B. \$332 more per year
- C. \$373 more per year
- D. \$4,476 more per year

8. There are 170,000 people in Washington who buy plans through the health exchange, 70% of whom receive subsidies. The average subsidies cover 87% of the cost of the insurance. What will be the total monthly cost of the health insurance subsidies for Washington State residents after the increase?

- A. \$360 million
- B. \$390 million
- C. \$440 million
- D. \$550 million

9. Examine the graph titled “Premium increases” on page A1. There are 154 plans offered in Washington State from the 13 listed insurers, 98 through the exchange and 56 outside it. The insurers only offering plans through the exchange have an average of 9 plans each. If the insurers that offer plans both through the exchange and outside it on average each offer 19 plans, then how many plans do insurers which only offer plans outside the exchange offer on average?

- A. 6.4 plans per insurer
- B. 10.8 plans per insurer
- C. 11.8 plans per insurer
- D. 13.5 plans per insurer

10. From 2012 to 2016, the percentage of people in Washington State without health insurance dropped from 14.5% to 7.3%. In the same time period the population grew by 3.1%. How many fewer people in Washington State are without health insurance than there were in 2012?

- A. 480,000
- B. 510,000
- C. 540,000
- D. 550,000

11. Examine the graph titled “Premium increases” on page A1. What is the median percentage increase for insurers with plans offered through exchange?

- A. 9.9
- B. 10.6
- C. 11.3
- D. 12.6

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