Sum up the News – September 27th, 2016

Vocabulary

1. If the value of the expression -2x + 6 is more than A and less than B, where A and B are two constants such that A < B, then which of the following statements is true about the value of x?

        A. $3 - ½ B < x < 3 - ½ A$

        B. $2 - ½ A < x < 2 - ½ B$

        C. $6 + 2A < x < 6 - 2A$

        D. $3 - ½ B < x < 3 - ½ A$

2. All of the expressions below will become trinomials when expanded except for _____.

        A. $(x - 2)^2$

        B. $(x + 2)^* (x- 5)$

        C. $(x + 6) * (6 - x)$

        D. $(3x + 1) * (x - 3)$

3. Which of the following equations, when graphed on the coordinate plane would have y-intercept of 2?

        A. $y = |x + 1| + 2$

        B. $y = 2 * 3^x$

        C. $y = x^3 - 5x + 3$

        D. $y = (x - 2)^2$

4. The $1.6 million total fine for the clearcutting includes damages of $5000 for every knocked down tree that was wider than 6 inches and $500 for every other tree. If 85% of the 150 trees had a diameter of at least 6 inches, what percent of the total fine was the cutting down of the trees?

    A. 39%

    B. 40%

    C. 41%

    D. 42%

5. Ten years earlier a Seattle homeowner was fined $500,000 for cutting down 120 trees. How much more expensive are the fines now than they were 10 years ago, purely on a cost per tree basis?

    A. 2.2 times more expensive

    B. 2.6 times more expensive

    C. 3.1 times more expensive

    D. 3.4 times more expensive

6. Karez are ancient tunnels in the Xinjiang region of China that function as underground aqueducts. While there were 1800 working karez in the region in the 1955, today there are just 200. Each year an average of 12 karez run dry and others become contaminated beyond use.

    A. 12 fewer per year

    B. 14 fewer per year

    C. 17 fewer per year

    D. 27 fewer per year

7. The karez run from the foothills of the Tianshin mountains and draw from the underground aquifer there. Thanks to an increase in mining and agricultural uses, the aquifer has been shrinking in volume by 3 million cubic meters each year. The decreased water flow has led to 12 karez drying up each year. How many cubic feet of water pass through an average karez in a typical day?

    A. 700 cubic meters

    B. 3,500 cubic meters

    C. 20,000 cubic meters

    D. 250,000 cubic meters

Based on the article "Sea-Tac Airport is getting new taxi services" on page B2 of the Friday, September 23rd, Seattle Times.

8. Eastside for Hire has won the contract to serve SeaTac airport, taking it from Yellow Cab. Eastside will sign 300 drivers to contracts and 75% of those drivers will have to be ones who used to work for Yellow Cab. If Eastside for Hire will have 20% more vehicles owners signed to contracts than Yellow cab did, what percentage of former Yellow cab drivers will sign contracts with Eastside for Hire?

    A. 50%

    B. 75%

    C. 85%

    D. 90%

9. This August, there were 16.6% fewer taxi rides to and from SeaTac than there had been in the previous August. This year there were 72,479 taxi rides and 70,115 ride-sharing rides in August. If each month there are roughly the same number of rides to the airport, then approximately how many taxi rides were there to and from SeaTac airport in all of 2015?

    A. 720,000

    B. 1,040,000

    C. 1,150,000

    D. 1,440,000

10. Overall the total number of rides, served either by taxicabs or by ride-sharing services, increased by 15% compared to the previous year. By how much did ride-sharing rides increase from August of 2015 to this year?

  A. 40%

  B. 60%

  C. 90%

  D. 110%

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