Vocabulary

1. A system of two linear equations, y = Ax+ B and Cx + Dy = E, where A, B, C, D, and E are all constants contains one solution. If the system was solved through substitution, then in terms of the five constants, what is the value of x?

A. $\frac{D-B}{A-C} + E$

B. $\frac{B-D}{A-C} + E$

C. $\frac{E-CD}{C+AB}$

D. $\frac{E-BD}{C+AD}$

2. What is the ratio of 8^j to 8^k if j = 5/12 and k = 0.75?

A. $\frac{-1}{3}$

B. $\frac{1}{3}$

C. $\frac{1}{2}$

D. $\frac{5}{9}$

3. A right circular cone, with radius of R and height of H, is sliced vertically into two pieces, so that each of the two solids has a base that is a semi-circle. What is the combined surface area of the two solids in terms of R and H?

A. 2RH

B. $\pi R^2 + \pi R\sqrt{R^2 + H^2}$

C. $\pi R^2 + \pi R\sqrt{R^2 + H^2} + 2RH$

D. $2\pi R^2 + 2RH$

Based on the article "Amazon hiring spree going strong in state" on page A11 of the Tuesday, May 10th, Seattle Times.

4. Amazon was on a hiring spree during the first three months of 2016, both locally and across the globe. From the end of last year through March of this year, the company increased its Washington State workforce by 3,500 people, a 13% increase. Globally, they hired 14,400 new people, to raise their total employment numbers to 245,200 people. What percentage of Amazon's workforce worked in Washington State at the end of 2015?

        A. 11.3%

        B. 11.7%

        C. 12.2%

        D. 12.5%

5. Despite its large impact on the state, Amazon still trails behind Boeing and Microsoft in terms of total employees in the region. If the changes to Amazon's workforce continued at the rate, both statewide and globally , what percentage of its employees would work in Washington state at the end of 2017?

        A. 8.7%

        B. 13.9%

        C. 15.4%

        D. 15.9%

6. Examine the chart titled "Adding on" on page A11. What has been the average percentage increase in Amazon employees for the other states listed so far in 2016?

        A. 11.6%

        B. 12.8%

        C. 18.2%

        D. 24.8%

Based on the article "Fierce fight in Ore. town over plan to bottle water" on page A12 of the Friday, May 13th, Seattle Times.

7. Cascade Locks is a town of 1200 residents that is considering letting a Nestlé bottled water plant move in. The town is suffering from a 19% unemployment rate and the company promises that the bottling plant would add 50 jobs to the area. If only 65% of the residents are considered to be part of the workforce, what would the town's unemployment rate be if the plant moved in and filled the new jobs with people from the town?

    A. 12.5%

    B. 13.6%

    C. 14.0%

    D. 14.8%

8. Cascade Locks is typically wet, as the town gets 77 inches of rain each year, far more than other towns in the area. The bottling plant would use 118 million gallons of the town's spring water. If the town occupies an area of 3 square miles, what is the approximate number of gallons of water that fall on the town each year?

    A. 83 million cubic feet

    B. 179 million cubic feet

    C. 281 million cubic feet

    D. 537 million cubic feet

9. If the deal goes through, Nestlé could take ½ a cubic foot of water every second. Every gallon of bottled water that Nestlé produces will take 1.38 gallons spring water. Approximately how many gallons of bottled water would Nestlé be able to produce each hour? (1 cubic foot = 7.48 gallons)

    A. 8,000 gallons

    B. 10,000 gallons

    C. 13,000 gallons

    D. 16,000 gallons

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