Sum up the News – June 19th, 2017

Vocabulary

1. The distance from the origin to a point F is $\sqrt{13}$ units. If the x- and y-values of the coordinate are both integers then how many possible locations does point F have on the coordinate plane?

    A. 2

    B. 4

    C. 8

    D. 16

2. A pie chart details 5 possible choices on a survey, A through E. Options A and D each receive 30% of the votes and the other choices each receive an equal amount. What would be the measure of the central angle of the sector that represents option C?

    A. 13°

    B. 48°

    C. 72°

    D. 144°

3. A histogram with an interval width of 5 is constructed using a data set that has a minimum value of 10 and a range of 45. If the first quartile is at 20 and the 3rd quartile at 50 then which of the intervals has the most observations in it?

    A. 15-20

    B. 20-25

    C. 45-50

    D. 50-55

Based on the article "After cardiac arrest, fastest way to send help is on flying drone" on page A4 of the Wednesday, June 14th, Seattle Times.

4.The time it took for a drone to reach the target locations ranged from 1 minute 15 seconds to 11 minutes 51 seconds, but those times include the dispatcher being notified, directing the drone to the site and then launching it. The drone can fly at a speed of 47 miles per hour after it has been launched. If dispatch time takes on average 20 seconds and launching the drone takes 15 seconds, them how far did the drone have to fly to reach the farthest target?

      A. 0.5 miles

      B. 4.1 miles

      C. 8.8 miles

      D. 9.2 miles

5. If a patient receives a shock within one minute of the cardiac arrest their chance of survival is at 90% but the longer it takes the less likely the shock is to work. After 10 minutes, the chance of survival drops to just 5%. If survival chance and time are linearly related then how far could a patient be from a drone launch site and still receive a shock that has a 50% chance of saving their life?

      A. 3.45 miles

      B. 3.63 miles

      C. 4.07 miles

      D. 5.24 miles

6. The Seattle-Bellevue-Tacoma metro area covers 5,782 square miles and is home to 3.8 million people. If drones launch sites were established across the Seattle-Bellevue-Tacoma metro area, so that every location was reachable by drone within 5 minutes, then how many drone sites would be needed?

      A. 160 drones

      B. 240 drones

      C. 490 drones

      D. 620 drones

Based on the article "WE SPEND MORE TIME THAN EVER TRAVELING TO WORK" on page B1 of the Sunday, June 18th, Seattle Times.

7. With the housing market in the greater Seattle area continuing to increase at record rates, more and more people are moving far out from the city center to find affordable housing, increasing the length of time they commute. The number of mega-commuters, those who travel 90 minutes or more each day, increased by 72% from 2010 to 2015, the third highest rate of increase in the country. If the number of people working at least 90 minutes from home continued to increase linearly, how many will have a commute of at least 90 minutes by the end of 2017?

    A. 65,000

    B. 67,000

    C. 70,000

    D. 72,000

8. Examine the table titled "Seattle near top for mega-commute increase" on page B7. What is the range in the total change in the number of mega commuters in the cities surveyed?

    A. 34,000

    B. 57,000

    C. 61,000

    D. 95,000

9. Examine the graph titled "Long commutes rise, short commutes fall" on page B7. As of 2015 the median commute was 30 minutes 12 seconds. In which interval was the median interval located in 2010?

    A. 15-19

    B. 25-29

    C. 30-34

    D. 35-39

10. Mega-commuters used to be extremely rare in the area, just 0.5% of the commuters in 1980. Evan after the recent rise they still only make up 3.2%, but the number is expected to continue to rise. As of 2015, how many people in the area had commutes that were less than 30 minutes?

A. 690,000

B. 890,000

C. 1,430,000

D. 1,780,000

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