

Sum up the News – October 26th, 2015

Vocabulary

1. Given two linear equation $4x - 3y = 10$ and $2x - 1.5y = 10$, the lines will intersect at how many points?
 - A. 0
 - B. 1
 - C. 2
 - D. infinite
2. The shape on the coordinate plane bounded by the x-axis, y-axis and the line $y - 3 = -(x - 3)$ is best described as a(n) _____.
 - A. equilateral triangle
 - B. isosceles triangle
 - C. scalene triangle
 - D. trapezoid
3. The longest diagonal in a regular hexagon is exactly one-third of the hexagon's perimeter. If R is the ratio of the perimeter of a regular polygon to the length of the polygon's longest diameter, which of the following represent the possible values of R ?
 - A. $2\sqrt{2} \leq R < \pi$
 - B. $2\sqrt{2} \leq R \leq \pi$
 - C. $2\sqrt{2} \leq R \leq 3\sqrt{2}$
 - D. $3 \leq R \leq 4$

Based on the article “Next Air Force One will fly faster, farther with advanced technology” on page A1 of the Monday, October 19th, Seattle Times.

4. The new planes that will be used as Air Force One will be built 747-8's and will have a longer range than the current planes, 747-200B's. The current planes have a range of 7,880 miles and the new planes will have a range of 7,730 nautical miles. A nautical mile is defined as the distance required to cover one minute of one degree of longitude around the earth's equator and 1 nautical mile \approx 1.153 miles. By what percentage will the new planes increase the range of Air Force One?

- A. 7.5%
- B. 11%
- C. 13%
- D. 113%

5. The new planes will be 250 ft. long, longer than the current ones, but not wider. The planes currently being used are 231 ft. 10 in. long and have 4,000 sq. ft. of cabin space spread across three levels, but 60% of that is on the middle level. How many square feet will the middle cabin level be in the new Air Force Ones if they maintain the same distribution of area across the three levels?

- A. 2,200 sq. ft.
- B. 2,600 sq. ft.
- C. 3,600 sq. ft.
- D. 4,300 sq. ft.

Based on the article “Resident orcas robust, sleek” on page A1 of the Thursday, October 22nd, Seattle Times.

6. Examine the graph titled “Southern Resident Orca Population” on page A7. During which 5 year period did the number of orcas decrease at the highest rate?

- A. 1980 – 1985
- B. 1990 – 1995
- C. 1995 – 2000
- D. 2010 – 2015

7. Examine the chart titled “Southern Resident Orca numbers” on page A7. Across all three pods, how do the number of females compare to the number of adult males?

- A. 7% more females
- B. 14% more females
- C. 20% more females
- D. 23% more females

Based on the article “Why storm grew into 200-mph monster in just 2 days” on page A1 of the Saturday, October 24th, Seattle Times.

8. Tropical Storm Patricia quickly transformed into the most powerful hurricane in recorded history as it approached the west coast of Mexico. In 24 hours, Patricia’s winds increased from 85 miles per hour to 200 miles per hour. If the maximum speed of the hurricane’s winds increased at a steady rate, how many minutes did it take for the speed of the winds to increase by 1 mile per hour?

- A. 5 minutes
- B. 8 minutes
- C. 10 minutes
- D. 13 minutes

9. Though incredibly strong, Patricia is comparatively compact, measuring just 15 miles across. The area that experiencing the strongest winds is the ring 3 miles from the hurricane’s center. During the height of the hurricane’s wind speeds, how long did it take for the air traveling the fastest to complete one circular revolution around the center?

- A. 4.5 minutes
- B. 5.7 minutes
- C. 6.5 minutes
- D. 14.2 minutes

10. At 11:00am local time, the hurricane was 125 miles away from Mexico's coastline and was moving towards it at a rate of 10 miles per hour. If the circular storm's speed of travel remained constant, at what time would its leading edge reach Mexico's coast?

- A. 10:45pm
- B. 11:30pm
- C. 11:45pm
- D. 1:00am

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