

## Sum up the News – May 22<sup>nd</sup>, 2017

### Vocabulary

1. As an object falls from a fixed height, the speed at which it falls is directly related to how long it has been falling, and the distance it has fallen is related to the product of its speed and the time it has been falling. How does the height of the object off the ground relate to the time since it began falling?

- A. linearly
- B. quadratically
- C. inversely
- D. exponentially

2. Data sets A and B have a minimum value of 15. The median of B is 10 points greater than the median of A, but A's range and IQR are both larger than B's. If data set B is normally distributed, then which of the following best describes data set A?

- A. skewed to the left
- B. symmetric
- C. skewed to the right
- D. normally distributed

3. Points J, K and L lie on circle M. Angle JLK measures  $84^\circ$ . If chords  $\overline{JL}$  and  $\overline{KL}$  are of equal length, then what is the measure of arc  $\widehat{KL}$ ?

- A.  $72^\circ$
- B.  $96^\circ$
- C.  $144^\circ$
- D.  $192^\circ$

**Based on the article “New normal: Homeowners staying put” on page A3 of the Monday, May 15<sup>th</sup>, Seattle Times.**

4. Many homeowners refinanced their fixed-rate mortgages when interest rates were low, around 3.25%, and are reluctant to move now because it would mean getting new mortgages at higher rates, with higher monthly payments. A new 30-year fixed rate mortgage for \$500,000 with an interest rate of 5.5% would increase a total monthly payment by \$700 to \$3,600, including some estimated taxes and fees. The actual mortgage payments at 3.25% are \$435 for every \$100,000 borrowed and \$568 for every \$100,000 at 5.5%. What portion of the total monthly payment for the 3.25% loan goes to taxes and fees?

- A. 21%
- B. 23%
- C. 25%
- D. 27%

5. The number of new homes for sale is now just one half of what it was in the years prior to the recent recession. Sales of existing homes are at only one fourth of the level they had been. What percentage of home beings sold before the recession were newly built?

- A. 15%
- B. 20%
- C. 25%
- D. 30%

**Based on the article “Remote island in Pacific is awash in plastic” on page A1 of the Wednesday, May 17<sup>th</sup>, Seattle Times.**

6. The team researching the trash build up on the island estimated that 13,000 new pieces of plastic trash washed up each day. The island is roughly rectangular and is 6 miles long by 3 miles wide. It is surrounded entirely by sandy beaches. If the team cleared a 100-foot-long section of the beach, how many pieces washed up each day in their cleared section? (1 mile = 5,280 feet)

- A. 8 pieces per day
- B. 14 pieces per day
- C. 19 pieces per day
- D. 27 pieces per day

7. The researchers performed their study over  $3\frac{1}{2}$  months in 2015 and estimated that the trash that had washed up on the island weighed 17.6 tons. The Great Pacific garbage Gyre was discovered in 1985. If plastic has been washing up on the beach since then, how much does each piece of plastic trash weigh on average?

- A. 0.00012 pounds per piece
- B. 0.00025 pounds per piece
- C. 0.00075 pounds per piece
- D. 0.0037 pounds per piece

**Based on the article “AC catches on in hot local rental market” on page D1 of the Sunday, May 21<sup>st</sup>, Seattle Times.**

8. Older apartments in Seattle only rarely had air conditioning installed but as the weather has changed and summer days have gotten hotter, AC units are more and more common in newly built apartments. Only 6% of older apartments have AC but 25% of the units built this decade have it. If 11.5% of all apartments in Seattle now have AC, how many of them were built in the past decade?

- A. 24%
- B. 27%
- C. 29%
- D. 32%

9. Newer apartments have rents that are 40% than similar units. An AC unit costs \$5,000 if installed during construction but the cost of the unit is part of the higher rent on the new apartment. Assume that the owner is aiming for the increased rent to cover the unit in 8 years. If the median apartment in Seattle rents for \$2,176 per month, what percentage of the extra rent being charged for new apartments is going to pay for the AC unit?

- A. 4%
- B. 6%
- C. 9%
- D. 15%

10. Examine the graph titled “Big rise in Seattle-area apartments with AC” on page D6. Virtually no new apartments were built in the 70’s, but the number of new apartments built in the decades of 60’s, 80’s, 90’s, and 00’s were roughly equal. What is the approximate percentage of units built with AC from 1960 to 2010?

- A. 4.6%
- B. 6.4%
- C. 7.0%
- D. 7.9%

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